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By Brian E. Gray*

Preface

This study of California water transfer policy was prepared under the sponsorship of the California Business Roundtable, the California Chamber of Commerce, the California Farm Bureau Federation, and the California Manufacturers Association. Its purposes are to review California's experience with voluntary transfers of water over the past two decades, to identify "second generation" issues that have arisen from this experience, and to propose a "Model Water Transfer Act for California" (Model Act) that consolidates and improves the existing water transfer laws.

Although I served as the principal author of the Model Act and accompanying report, the policies and text of the Model Act were drafted with the advice of four other academic experts on California water transfer law and western water resources management. The members of the Advisory Group were:

- Richard E. Howitt, Professor of Agricultural Economics, University of California at Davis.
- Lawrence J. MacDonnell, Former Director of the Natural Resources Law Center, University of Colorado.
- Barton H. Thompson, Jr., Professor of Law, Stanford University.
- Henry J. Vaux, Jr., Associate Vice President for Agriculture and Natural Resources, University of California, and Professor of Agricultural Economics, University of California at Riverside.

The Model Act also reflects the comments and criticism received from water users, district managers, project operators, state and federal regulators, environmentalists, and other persons who have an interest in California water transfer law and policy. Members of the sponsoring organizations and I conducted two sets of focus group meetings with interested parties in four regions of the state. These focus groups were sponsored by the Bay Area Economic Forum, the Northern California Water Association, the Southern California Water Committee, and the San Joaquin Valley and Tulare Basin Water Users. A separate meeting was held with representatives of the United States Bureau of Reclamation, the California Department of Water Resources, and the State Water Resources Control Board. I also received written comments on drafts of the Model Act from a variety of other individuals and organizations.

The four sponsoring organizations endorsed the Model Water Transfer Act in May 1996. On June 18, 1996, Senator James Costa and Assemblyman Richard Katz introduced a preview version of the Model Act as Preprint Senate Bill 15.

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In preparing the Model Water Transfers Act, we had to make a series of policy choices about how best to improve California's water transfer laws and to accommodate the array of interests affected by those laws. These choices are described in detail below. At the outset, however, it is important to identify the premises on which the Model Act and report are based. These premises include:

- Market allocation of resources, including water, is preferable to other systems of allocation, such as allocation by government planning and reallocation by government fiat. A free market for water would increase both the efficiency of the use of water and the efficiency of the allocation of water in California.

- Markets generally do not take into account costs to third parties. Therefore, the water transfer laws must ensure that market-based transfers do not cause significant harm to third parties and that any unavoidable harm is mitigated or compensated.

- Secure property rights are a prerequisite of all market-based systems of resource allocation. Although the reasonable and beneficial use doctrines, forfeiture laws, the public trust, and the panoply of statutes that protect water quality, instream uses, and endangered species render water rights (and contract rights to water) less certain than other forms of property rights, the law must recognize that parties to water transfers require enhanced protection of water rights before, during, and at the conclusion of water transfers.

- Open access to the existing regional and statewide water supply infrastructure is essential to the creation and expansion of markets for water in California. This is true both for intraregional and interregional water transfers.

- Reduction of transaction costs would help to encourage future voluntary water transfers. The water transfer review procedures therefore should be expedited to the extent possible without undermining necessary protections for third parties who may be adversely affected by water transfers.

Water transfers are an essential feature of California's water resources policy and will become increasingly important as the demand for water continues to grow in relation to available supplies. Thus, it is imperative that California's water transfer laws keep pace with the economic, social, and environmental needs of the state. In presenting this Model Water Transfer Act for California, the author and Advisory Group members hope to build on the experience of the past two decades and to help give shape to the transfers yet to come.

I. Introduction

Water transfers are not new. In fact, voluntary transfers and changes in water rights have been part of California water law since its inception. Just as California was the first state to adopt the prior appropriation system, so too was it the first to recognize that water rights may be transferred—independent of land—from the original appropriater to another user. Thus, as early as 1859 the California Supreme Court declared that "[t]he ownership of water, as a substantive and valuable property right, distinct sometimes, from the land through which it flows ... may be transferred like other property."[1]

Yet, for much of the state's history, water transfers contributed little to the development and allocation of California's water resources. When water users in the growing agricultural and urban areas of California needed additional supplies, they either pooled local resources or sought government funding to construct new water projects. The hallmarks of this era of development include: the All-American Canal, which delivers Colorado River water to the Imperial and Coachella Valleys; Los Angeles' Owens Valley and Mono Basin projects; San Francisco's Hetch Hetchy system; the East Bay Municipal Utility District's Mokelumne River facilities; the Colorado River Aqueduct, which supplies Colorado River water to much of Southern California; and, most importantly, the Central Valley Project (CVP) and the State Water Project (SWP), which completed what Norris Hundley has called the "hydraulic society."[2]

The vast interregional water supply infrastructure created by these projects makes it possible today for farms in Kern County to irrigate their crops with water from the Pit River in Modoc County, for businesses in the Silicon Valley to produce computer chips using the runoff from Mount Lyell in the

1. McDonald v. Bear River & Auburn Water & Mining Co., 13 Cal. 220, 2320–33 (1859). The Court later held that the transfer of water or water rights "must not be to the prejudice of the rights of others." Butte T.M. Co. v. Morgan, 19 Cal. 609, 615 (1862); *see* Scott v. Fruit Growers Supply Co., 258 P. 1095, 1097 (1927). This protection of the interests of third-parties remains the principal limitation on transfers of water in California *See* CAL. WATER CODE §§ 1702, 1706 (West 1996).

2. NORRIS HUNDLEY, JR., THE GREAT THIRST CALIFORNIANS AND WATER 201 (1992).

Yosemite back country, and for the residents of San Diego to drink water that originated as snowfall outside of Pinedale, Wyoming. Indeed, without the era of large-scale water development, the California that we know today would not exist. As William Kahrl has observed, "[t]he history of California in the twentieth century is the story of a state inventing itself with water."[3]

It would be astonishing, however, if the allocation of the state's water resources that occurred over the course of the last one hundred forty years represented the optimal distribution for the late twentieth and early twenty-first centuries. As California's economy has moved from gold dust to silicon chips, and as the state's population has grown to more than thirty-five million, demands for water have both expanded and shifted. Yet, the traditional response to the forces of change—development of new supplies—is no longer an easy option.

Several factors have contributed to this new reality. First, the inflation of the 1970's significantly increased the cost of new water projects, and the burgeoning federal budget deficits of the 1980's led to severe cutbacks in federal funding for such projects.[4] Second, the 1981 decision by Secretary of the Interior Cecil Andrus to include the north coast rivers in the National Wild and Scenic Rivers System precluded future development of a source of new surface water supplies that equals the combined annual yield of all of the rivers of the Central Valley.[5] Third, the California voters' decisive rejection of the Peripheral Canal in 1982 signaled an end to the public's willingness to pay for expensive new water projects, at least in the absence of a showing of compelling need for the new supplies. The defeat of the Peripheral Canal also demonstrated the power of environmentalists as a third force in California water politics, along with urban and agricultural interests.[6] Fourth, a series of judicial decisions and other laws required existing water supply facilities to be operated to protect the natural environment. These legal developments made it increasingly difficult to construct new projects that potentially would exacerbate environmental problems.[7]

In response to these limitations on the development of new water sources, a number of participants in California water policy argued that it had become increasingly important to make better use of existing sources. In the late 1970's and early 1980's, a handful of observers put forward a seemingly radical idea—to allow free market forces to guide the reallocation of the state's water resources by creating price incentives to use water more efficiently so that the surplus could be purchased by users in areas of new or higher-valued demand. Early proponents of "water marketing" in California included the Rand Corporation and the Governor's Commission to Review California Water Rights Law, which published influential reports on California water policy in 1978. The Rand study involved an extensive analysis of water pricing and other economic influences on water use and water resources planning. It concluded that the available evidence

> strongly suggests that when the appropriate incentives are presented to current water users, they will respond by making their water use more efficient, that water within the state will on average be put to higher-valued uses, and that the construction of new and expensive facilities for water development can be postponed or eliminated.[8]

The Governor's Commission echoed this conclusion. It noted that increased "construction costs and concern for environmental quality have made more difficult the new water supply development designed to meet the projected water deficit" and concluded that "[r]eforms in existing water rights laws could encourage ... more efficient use of water

3. WILLIAM L. KAHRL, WATER AND POWER: THE CONFLICT OVER LOS ANGELES' WATER SUPPLY IN OWENS VALLEY 1 (1982).

4. *See* David Rogers, *Federal Budget Constraints Raise the Pressure in a Long-Running California Water Dispute*, WALL ST. J., Jan. 29, 1986, at 64, Col. 1; Iver Peterson, *Changes Confronting Federal Agency that Built Water Projects for West*, N.Y. TIMES, Mar. 17, 1985, § 1, at 22, Col. 1. Indeed, the House of Representatives recently rejected a bill to authorize construction of Auburn Dam on the American River, in part because of the significant cost to federal taxpayers. *See* Louis Freedberg, *House Panel Votes Down Auburn Dam*, S. F. CHRON., June 28, 1996, at A1, col. 5.

5. HUNDLEY, *supra* note 2, at 330; *see* County of Del Norte v. United States, 732 F.2d 1462 (9th Cir. 1984).

6. HUNDLEY, *supra* note 2, at 321–30.

7. Significant legal developments included: the United States Supreme Court's decision in California v. United States, 438 U.S. 546 (1978), that California's instream protection laws could be applied to the Central Valley Project (CVP), the California Supreme Court's recognition of the public trust as a limitation on the exercise of previously vested water rights in National Audubon Society v. Superior Court, 658 P.2d 709 (1983), the California Court of Appeal's landmark Bay-Delta opinion in United States v. State Water Resources Control Board, 182 Cal. App. 3d 82 (1986); Congress' enactment of the Central Valley Project Improvement Act of 1992 (CVPIA), Pub L. No. 102-575, §§ 3401–3412, 106 Stat. 4706 (1992); application of the Endangered Species Act to CVP and State Water Project (SWP) diversions from the Delta, *see* O'Neill v. United States, 50 F.3d 677 (9th Cir. 1995); and establishment of new water quality standards for the Bay-Delta Estuary, CALIFORNIA STATE WATER RESOURCES CONTROL BOARD, WATER QUALITY CONTROL PLAN FOR THE SAN FRANCISCO BAY/SACRAMENTO-SAN JOAQUIN DELTA ESTUARY: WR 95-1 (1995).

8. CHARLES E. PHELPS, NANCY Y. MOORE & MORLIE H. GRAUBARD, EFFICIENT WATER USE IN CALIFORNIA: WATER RIGHTS, WATER DISTRICTS AND WATER TRANSFERS 60 (1978).

and assist in reducing this deficit."[9] The Commission also observed that "[s]ubstantial variations ... exist in water values among regions within the State," which it viewed as evidence of inefficiency in the allocation of California's water resources.[10] The Commission then recommended a variety of statutory changes designed to create greater incentives to use water more efficiently and to encourage voluntary water transfers. These changes included protection of conserved water from forfeiture, authorization of transfers of conserved and surplus water, and a declaration that the willingness of a user to transfer water may not be used as evidence of prior waste or unreasonable use.[11] Many of these recommendations subsequently were enacted into law.[12]

Several years later, the Environmental Defense Fund (EDF) became the first environmental organization to support water transfers by proposing a transfer of conserved water from the Imperial Irrigation District to the Metropolitan Water District.[13] The EDF proposal was followed by an Assembly Office of Research case study of a hypothetical sale of conserved water from the Turlock and Modesto Irrigation Districts to the Kern County Water Agency to demonstrate the economic benefits that could be derived from water transfers.[14] Both studies built on the recommendations of the Rand and Governor's Commission reports and served as examples of how long-term, interregional water transfers could create incentives for more efficient use, provide new water to the purchasing agencies at costs lower than alternative sources, increase net income to farmers within the selling agencies, and enhance the overall flexibility of the state's water management system. Indeed, for many of these reasons, the EDF proposal became the foundation of the landmark IID-MWD long-term transfer agreement.[15]

Initially, all of these proposals met with skepticism and, in some quarters, hostility. Ironically, even though the Governor's Commission recommendations included new laws to provide greater security for the water and contract rights of participants in water transfers, the strongest resistance came from farmers and agricultural water supply agencies who feared that water transfers would jeopardize their water rights.[16] In addition, the new proposals for interregional water transfers generated a widely shared fear that increased use of the market to allocate water would allow urban water agencies to remove a large percentage of the water currently used in the agricultural regions of the state. As Marc Reisner and Sarah Bates have observed, "[t]he tragic fate of Owens Valley ... continues to haunt rural California seventy years after Los Angeles acquired its water rights by perfectly legal subterfuge. This burdensome legacy has greatly hampered [the] state's efforts to implement water marketing, even though much stronger protections now exist against a recurrence of an 'Owens Valley' episode."[17] Although Owens Valley may be a particularly infamous example, it is hardly representative of California water transfers. Rather, until the modern era, "cities either built water projects to bring in new supplies or, where possible, condemned the necessary water."[18] Moreover, in all of the state's history, there is no other example of an interregional water project perpetrated by deception, and no other water development has even come close to removing *all* water from the exporting region. Indeed, in reaction to Owens Valley, the California Legislature declared the water rights of subsequent interregional projects such as the CVP and the SWP to be subordinate to the rights of users within the areas from which the project water originates.[19]

At least in retrospect, it is surprising that proposals to transfer water through market processes should have engendered significant controversy. After all, land and other resources in the United States are freely traded without fear of loss of property rights or concern that the market is an inappropriate allocational mechanism. Moreover, water has been bought and sold throughout the state's history. For example, the Bureau of Reclamation has routinely allowed CVP users to transfer project water

9. GOVERNOR'S COMMISSION TO REVIEW CALIFORNIA WATER RIGHTS LAW: FINAL REPORT 51 (1978).

10. *Id.* at 54.

11. *Id.* at 60–96.

12. *See* CAL. WATER CODE §§ 1010, 1011, 1244 (West 1996).

13 ROBERT STAVINS & ZACH WILLEY, TRADING CONSERVATION INVESTMENTS FOR WATER (1983).

14 CALIFORNIA ASSEMBLY OFFICE OF RESEARCH, WATER TRADING: FREE MARKET BENEFITS FOR EXPORTERS AND IMPORTERS (1985).

15. *See* Kimberly Martin McMorrow & Jeffrey W. Schwarz, *The Imperial Irrigation District/Metropolitan Water District Transfer: A Case Study*, *in* MARC REISNER & SARAH BATES, OVERTAPPED OASIS: REFORM OR REVOLUTION FOR WESTERN WATER 154 (1990).

16. *See* ARTHUR L. LITTLEWORTH & ERIC L. GARNER, CALIFORNIA WATER 224 (1995).

17. REISNER & BATES, *supra* note 15, at 71. Arthur Littleworth and Eric Garner have added that "California's history has contributed to the slow development of [water] transfers, which are often negatively associated with controversial actions taken by Los Angeles in the early 1900s to obtain water from the Owens Valley." LITTLEWORTH & GARNER, *supra* note 16, at 223

18. Barton H. Thompson, Jr *Institutional Perspectives on Water Policy and Markets*, 81 CAL. L. REV. 671, 702 n 107 (1993).

19. CAL. WATER CODE §§ 10505, 10505.5 (West 1996) (CVP county-of-origin laws), *id.* § 11460 (SWP area-of-origin statute), *Id* § 11128 (applying area-of-origin statute to the CVP), and *Id* §§ 12200–12205 (Delta Protection Act). In United States v State Water Resources Control Board, 182 Cal. App 3d 82 (1986), the California Court of Appeal interpreted these laws as "reserv[ing] to the areas of origin an undefined preferential right to future water needs," which exporters must honor as the inchoate rights are exercised *Id.* at 139.

among themselves on a short-term basis. During the 1980's alone, these transfers exceeded three million acre-feet.[20] In addition, a number of agricultural water supply agencies have established water banks and exchange pools through which member agencies and farmers can buy and sell water. These more formal water transfer systems include water banks operated by the Kern County Water Agency and the Westlands Water District and pooling arrangements administered respectively by the Sacramento River Water Contractors Association, the Tehama-Colusa Canal Authority, the Friant Water Users Association, and the Arvin-Edison Water Storage District.[21] Finally, during the 1976–1977 drought, the Bureau of Reclamation created a federal water bank that purchased and sold water throughout the Central Valley, and the Department of Water Resources organized a massive exchange agreement among the Metropolitan Water District, the Los Angeles Department of Water and Power, users in the San Joaquin Valley, East Bay Municipal Utility District, and the Marin Municipal Water District.[22]

These transfers shared one of two defining characteristics: (1) the informal transfers and ongoing banking and pooling programs were local in scope and the transferred water therefore remained within the basin or origin or original use; or (2) the interregional transfers were short-term and the transfer of water out-of-basin lasted only as long as the water shortage emergencies that occasioned the transfers. In contrast, the new proponents of water transfers had in mind larger goals: to use the market to create permanent economic incentives for greater efficiency of water use, to encourage both short-term and long-term transfers in an effort to enhance the flexibility of the state and local water deliveries, to respond to acute water shortages, and to help supply growing long-term demands for water. Thus, to many observers, the water transfers proposed for the future—in which a "water market" would be a key component of the state's water resources policy—looked fundamentally different from the water transfers of the past.

II. The Contemporary Water Transfer Laws

Beginning in 1979 and continuing over the next sixteen years, the California Legislature enacted a series of statutes designed to promote and to facilitate voluntary transfers of water. Although these laws build on both the common law of water transfers and the long-standing statutory authorization of changes in permits and licenses to appropriate water,[23] the Legislature took the theory of water transfers far beyond its historical roots. Water transfers were not simply to be incidental features of water rights. Rather, the Legislature deemed voluntary transfers of water to be vital to the long-term social and economic interests of the state. Thus, in one of its early pronouncements on the subject, the Legislature declared "that the growing water needs of the state require the use of water in an efficient manner and that the efficient use of water requires certainty in the definition of property rights to the use of water and transferability of such rights."[24] In furtherance of this finding, the Legislature then stated that it is "the established policy of this state to facilitate the voluntary transfer of water and water rights where consistent with the public interest in the place of export and the place of import."[25]

Several features of the modern water transfer laws are particularly important.[26] First, accepting the arguments of the proponents that water transfers should be a permanent feature of California's water policy, the Legislature expressly authorized both short-term and long-term transfers.[27] Second, in an effort to promote both greater efficiency in water use and greater efficiency in the allocation of water, the Legislature provided that water users may voluntarily conserve water, transfer conserved water, transfer water that is surplus to their needs, and transfer non-surplus water made available by land fallowing or agreements to reduce or to forego water deliveries.[28] Third, recognizing that secure property rights are an essential feature of any market-based system, the Legislature declared the transfer of water to be a beneficial use and prohib-

20. *See* Brian E. Gray, *Water Transfers in California: 1981–1989*, *in* LAWRENCE J. MACDONNELL, ED., THE WATER TRANSFER PROCESS AS A MANAGEMENT OPTION FOR MEETING CHANGING DEMAND 22–26 (1990).

21. *See id.* at 24–27; Henry J. Vaux, Jr., *Water Scarcity and Gains from Trade in Kern County, California*, *in* KENNETH D. FREDERICK, ED., SCARCE WATER AND INSTITUTIONAL CHANGE 67 (1986); RICHARD W. WAHL, MARKETS FOR FEDERAL WATER: SUBSIDIES, PROPERTY RIGHTS, AND THE BUREAU OF RECLAMATION 138–40 (1989); G. Paul Zachary, *Water Rights May Become More Liquid*, WALL ST. J., Feb. 15, 1996, at A2, col. 2.

22. *See* WAHL, *supra* note 21, at 136–38; CLIFFORD T. LEE, THE TRANSFER OF WATER IN CALIFORNIA 62–65 (1977) (Governor's Commission to Review California Water Rights Law, Staff Paper No. 5); CALIFORNIA DEPARTMENT OF WATER RESOURCES, THE 1976–1977 CALIFORNIA DROUGHT: A REVIEW 95–97, 114–17, 139–40 (1978). There were a variety of other regional and interregional water transfers and exchanges that occurred during the 1976-1977 drought. *See id.*

23. CAL. WATER CODE §§ 1700–1706 (West 1996).

24. *Id.* § 109(a).

25. *Id.*

26. The development of the contemporary water transfer statutes is described in Brian E. Gray, *A Primer on California Water Transfer Law*, 31 ARIZ. L. REV. 745, 767–80 (1989); and Kevin M. O'Brien, *Water Marketing in California*, 19 PAC. L.J. 1165 (1988).

27. CAL. WATER CODE §§ 1020-1030 (West 1996) (water leases); §§1435-1442 (temporary urgency changes); *id.* §§ 1725-1732 (temporary changes); *id.* §§ 1735-1737 (long-term transfers).

28. *Id.* §§ 382, 1011, 1745.02, 1745.05.

ited the forfeiture of water that is transferred to another beneficial use.[29] Fourth, acknowledging that the extensive water supply infrastructure of the state is vital to the physical movement of transferred water, the Legislature authorized "bona fide transferors" to use state and local water supply facilities to wheel water.[30] Fifth, incorporating and embellishing the common law and statutory prohibition against injuries to other legal users of water,[31] the Legislature acted to protect "fish, wildlife, and other instream beneficial uses," as well as groundwater resources from unreasonable harm caused by water transfers.[32]

The enactment of these statutes significantly liberalized California water transfer policy. From 1980 through 1995, the State Water Resources Control Board (SWRCB) approved seventy-six petitions to transfer water based on these laws, authorizing the transfer of more than 2.3 million acre-feet.[33] Included among these is a series of large transfers of stored water from the Yuba County Water Agency to the Department of Water Resources (DWR) that have greatly enhanced the DWR's ability to meet its water supply obligations and to comply with Bay-Delta water quality requirements.[34] Also included are a variety of water exchanges, supplemental supply arrangements, and dry-year option agreements between large water agencies, such as the DWR and the Bureau of Reclamation, and the Kern County Water Agency and the Westlands Water District. SWRCB also has under consideration, pending completion of an environmental impact report, a long-term dry-year option arrangement between the Metropolitan Water District and the Arvin-Edison Water Storage District.[35] These and other transfers have added valuable flexibility to regional and state-wide water supply administration. Indeed, without the contemporary water transfer laws, it might not have been possible to operate the 1991 and 1992 Emergency Drought Water Banks, which provided essential water supplies to critically dry areas throughout California.[36]

The modern transfer laws also have contributed to the protection of the natural environment. Between 1985 and 1992, the California Department of Fish and Game and the United States Fish and Wildlife Service acquired more than 400,000 acre-feet from the Bureau of Reclamation and other agencies to enhance instream flows for anadromous fish and to augment supplies to wildlife refuges and other wetlands.[37] Finally, the Legislature's authorization of transfers of conserved water has encouraged conservation investments within the Imperial and Palo Verde Irrigation Districts with the consequent transfer of salvaged Colorado River water to the Metropolitan Water District.[38]

The successes of the modern water transfer laws have underscored the diverse range of interests that have joined together to promote the influx of market principles into California's water resources system. Economists have long supported water transfers as a means of achieving greater efficiency in water use. The opportunity to engage in water transfers, they argue, increases efficiency because users are confronted with the opportunity costs of their existing water management practices. Thus,

> [a] market provides incentives to farmers to change their crop mixes in drought years, to idle marginal land, and to invest in more efficient irrigation equipment. Urban users are encouraged to use water more carefully and to install more efficient water-saving devices when they recognize that their water bills rise as supplies become tighter.[39]

Economists also have urged that water transfers would promote greater *allocative* efficiency, as well as increased efficiency of *use*. As Charles Meyers and Richard Posner stated in an influential report to the National Water Commission in 1971,

> when criteria of allocation other than willingness to pay are used, it is very difficult to decide which uses (or users) of a resource

29. *Id.* §§ 1024(c), 1244, 1745.07.

30. *Id.* §§ 1810-1814.

31. *Id.* §§ 1702, 1706.

32. *Id.* §§ 1028, 1435(b), 1725, 1736, 1745.10, 1745.11.

33. For a list and brief description of these transfers, see Appendix B, *infra*.

34. *See* Gray, *supra* note 20, at 12.

35. For a description of these transfer arrangements, see *id.* at 13-22; *see also* JAY R. LUND, ET AL., RECENT CALIFORNIA WATER TRANSFERS: EMERGING OPTIONS IN WATER MANAGEMENT 67–79 (1992) (U.C. Davis Center for Environmental and Water Resources Engineering Report No. 92-1).

36. *See* 1 CAL. DEP'T OF WATER RESOURCES, CALIFORNIA WATER PLAN UPDATE BULLETIN 160-93, 287 (1993) For a legal analysis of the 1991 State Water Bank, see Brian E. Gray, *The Market and the Community Lessons from California's Drought Water Bank*, 1 WEST-NORTHWEST 17 (1994).

37. 1 CALIFORNIA WATER PLAN UPDATE, *supra* note 36, at 285

38. *See* 2 CALIFORNIA WATER PLAN UPDATE, *supra* note 36, at 264 For an analysis of the Imperial Irrigation District conservation and transfer agreement with MWD, see McMorrow & Schwarz, *supra* note 15, at 149–66; Brian E. Gray, *The Modern Era in California Water Law*, 45 HASTINGS L.J. 249, 296–306 (1994)

39. RONALD H. SCHMIDT & FREDERICK CANNON, USING WATER BETTER A MARKET-BASED APPROACH TO CALIFORNIA'S WATER CRISIS 8 (1991)

> would be most productive. To answer administratively such questions as whether a piece of land would be more valuable as a site of an apartment building or of a shopping center is extraordinarily expensive and time consuming. In contrast, the price system produces an unambiguous and usually quite satisfactory answer. The party in whose hands the property will be most productive is the party who values it most highly and is accordingly willing to pay the most for it.[40]

In addition to these theoretical justifications, many participants in California's water policy have come to support greater use of water transfers for more pragmatic reasons. A number of environmental organizations have viewed water transfers as a means of protecting and enhancing the state's instream water resources. They argue that reallocation of developed supplies through market transactions should reduce the pressure to build new water projects. Moreover, by creating incentives to conserve and transfer, a market-based system could have the incidental benefits of making additional water available for instream uses and of reducing pollution from excessive irrigation return flows.[41] Indeed, this is the principal reason why the Environmental Defense Fund promoted the IID-MWD transfer of conserved water described above,[42] and why the Natural Heritage Institute has advocated greater reliance of water transfers as one means of reducing agricultural drainage in western San Joaquin Valley.[43]

Many urban water agencies also have included transfers in their array of water planning strategies. These agencies now view transfers as a means of obtaining reliable short-term supplies during times of drought and of acquiring additional long-term supplies to meet growing demands within their service areas at a lesser economic (and political) cost than through alternative means such as construction of new projects or requests to encroach further upon water quality and other environmental standards.[44] Indeed, it is for this reason that the Metropolitan Water District became one of the strongest supporters of the Central Valley Project Improvement Act of 1992, which expressly authorizes the transfer of project water to non-CVP contractors.[45] Moreover, as noted above, a number of agricultural water supply agencies also have begun to engage in large interbasin transfers for many of the same reasons. Since 1989, for example, the Westlands Water District has acquired more than 385,000 acre-feet from various parties, including the Kern County Water Agency, the Department of Water Resources, and the Modesto Irrigation District.[46]

Other water agencies have recognized the economic benefits of transferring surplus water or water that they make available for transfer through conservation or reduction in demand within their service areas. As noted previously, the Yuba County Water Agency and the Imperial Irrigation District have transferred substantial quantities each year over the past decade. And, a variety of other agencies and individual farmers found it more economically beneficial to transfer water to the 1991–1992 State Water Banks than to use the water to irrigate crops.[47]

Finally, the enactment and implementation of the modern water transfer statutes is an acknowledgment that agencies such as the State Water Resources Control Board and the Department of Water Resources alone cannot adequately supervise the administration of California's water rights system to ensure that the state's water resources are used in accordance with the reasonable and beneficial use requirements of Article X, Section 2 of the California Constitution. The transfer laws ease the state's regulatory burden by creating market incentives to use water efficiently—and hence reasonably—without the threat of reallocation by government fiat.[48] "One need not be an extreme exponent of nineteenth century laissez faire liberalism to prefer institutional arrangements that minimize the importance of government in people's lives. One of the principal attractions of the market is that it involves a minimum of governmental participation."[49]

The contemporary water transfer statutes therefore reflect the widely shared view that the market will produce greater efficiency in water use; as well as create incentives to conserve, by allowing water users to realize the full value of their existing

40. CHARLES J. MEYERS & RICHARD A. POSNER, MARKET TRANSFERS OF WATER RIGHTS: TOWARD AN IMPROVED MARKET IN WATER RESOURCES 5 (1971).

41. *See* ZACH WILLEY, ECONOMIC DEVELOPMENT AND ENVIRONMENTAL QUALITY IN CALIFORNIA'S WATER SYSTEM 30–31 (1985).

42. *See* Stavins & Willey, *supra* note 13.

43. GREGORY A. THOMAS & MICHELLE LEIGHTON-SCHWARTZ, LEGAL AND INSTITUTIONAL STRUCTURES FOR MANAGING AGRICULTURAL DRAINAGE IN THE SAN JOAQUIN VALLEY: DESIGNING A FUTURE (1990).

44. *See, e.g., Central Valley Project Improvement Act: Hearing Before the Subcomm. on Water and Power of the Comm. on Energy and Natural Resources of the United States Senate*, 102d Cong., 1st Sess. 370 (1991) (Statement of Carl Borankay, General Manager of the Metropolitan Water District of Southern California).

45. *Id.*; *see* Central Valley Project Improvement Act, Pub. L. No. 102-575, § 3405, 106 Stat. 4706, 4709 (1992).

46. *See* Appendix B *infra*.

47. Harold O. Carter & Henry J. Vaux, Jr., *Third-Party Effects: The Research Challenge*, *in* HAROLD O. CARTER, HENRY J. VAUX, JR. & ANN F. SCHEURING, EDS., SHARING SCARCITY: GAINERS AND LOSERS IN WATER MARKETING 44–52 (1994).

48. *See* SCHMIDT & CANNON, *supra* note 39, at 7.

49. MEYERS & POSNER, *supra* note 40, at 5.

allocations. This occurs only when each user has the option to decide whether its current use or an alternative would produce greater net revenues and is thereby confronted with the opportunity costs of continuing its present water management and consumption practices. It is the market that "sort[s] out the competing uses for water and deliver[s] it to those who put the highest value on it" and market prices that "signal to all potential water users the value placed on water."[50]

III. Second Generation Issues

In retrospect, the modern water transfer laws may be seen as a "first generation" effort to accomplish four basic goals: (1) to use economic incentives to encourage conservation and greater efficiency of use; (2) to promote the transfer of water from willing sellers to willing buyers; (3) to provide increased security to water right holders and other water users who choose to conserve and to transfer water; and (4) to ensure the protection of third parties who may be adversely affected by water transfers, including other water right holders and environmental uses. Accomplishment of each of these goals is a prerequisite to the establishment of an effective and fair market-based allocational system.

In varying degrees, the modern transfer laws have fulfilled each of these prerequisites. As a consequence, water transfers have become a fixture of California's water resources system. Despite the successes of the contemporary laws, however, there remain a variety of questions about water markets. These questions are appropriately characterized as "second generation" issues that arise from the administration of the existing water transfer laws. These "second generation" issues include the following topics:

A. Lack of Coherence in the Existing Water Transfer Laws.

The modern transfer statutes have been enacted seriatim in response to specific problems that arose at specific times during the past sixteen years. The principal laws that seek to provide security for the rights of parties to water transfers were passed in 1980 in response to the recommendations of the Governor's Commission.[51] The same legislation also created a system of "trial transfers" in which effects on third parties could be evaluated on a trial basis.[52] In 1982, the Legislature enacted a statute that authorized local water agencies to transfer surplus water and created a system for changing water rights on a "temporary urgency" basis.[53] Six years later, the Legislature repealed the trial transfer laws and replaced them with separate provisions on "temporary changes" and "long-term transfers."[54] Then, in response to the increasingly severe drought, the Legislature provided for the leasing of water in 1991.[55] The following year, it expressly authorized local water agencies to enter into contracts with the State Water Bank and other water agencies to transfer water that is conserved or otherwise made available for transfer by members of the agency.[56]

These laws have been essential to the creation of a functioning water market in California, and they played an important role in facilitating the transfer of water during the last drought. An unfortunate consequence of the sequential and situational enactment of water transfer statutes, however, is that the law now lacks coherence. There are four sets of laws that potentially apply to long-term transfers[57] and five that govern short-term transfers.[58] Although this state of affairs can be explained by the serial development of the statutes, there is no justification for having multiple—and, in some cases, inconsistent—laws to govern water transfers.

B. Protection of Water Rights.

Despite the statutory protections for the water rights of the parties to water transfers, there exists significant uncertainty among existing water users on three questions: First, would a decision to transfer water jeopardize the transferor's water rights or contract rights? Second, if the transfer is of conserved or surplus water that the transferor arguably was using unreasonably or not using at all, what assurances does the transferee have that the transferred water will not be subject to waste, unreasonable use, or forfeiture proceedings? Third, at the conclusion of the term of a water transfer agreement, does the law provide adequate guarantees that full rights to the water will revert back to the transferor? Comments received from the focus groups confirmed that the uncertainty produced by these questions undermines the willingness of some water users to participate in the water market.

50. SCHMIDT & CANNON, *supra* note 39, at 8.

51. CAL. WATER CODE §§ 1011(b), 1244 (West 1996).

52. 1980 Cal. Stat. ch. 933, § 12. The Legislature repealed the trial transfer laws in 1988. 1988 Cal. Stat. ch. 1145, § 2.

53. CAL. WATER CODE §§ 380–387, 1435–1442 (West 1996).

54 *Id.* §§ 1725–1732, 1735–1737.

55 *Id.* §§ 1020–1030

56. *Id* §§ 1745–1745 11.

57. *Id.* §§ 380–387, 1700–1705 5, 1735–1737, 1745–1745 11

58. *Id.* §§ 380–387, 1020–1030, 1700–1705.5, 1725–1732, 1745–1745.11.

C. Water Transfer Review Procedures.

Although the Legislature has designated the SWRCB as the principal agency to review proposals to transfer water, the Board's authority is limited in practice. The SWRCB has jurisdiction only over transfers that require a change in the point of diversion, place of use, or purpose of use as set forth in a permit or license to appropriate water.[59] This means that transfers of water appropriated pursuant to pre-1914 rights and transfers of water appropriated under permit or license that do not require a change in the terms of the permit or license are exempt from review by the SWRCB. As a result of this definition of the SWRCB jurisdiction, the lion's share of water transfers that have occurred in California over the past two decades have been undertaken without the SWRCB review or approval.[60]

The absence of a comprehensive system to review water transfer proposals is not necessarily a failing of existing law. The extensive informal transfers among CVP users function well without the involvement of the Board, as do the regional pooling and exchange programs described earlier. Moreover, there is substantial evidence that the 1991–1992 State Water Banks would not have been as effective in transferring water during the last drought if transfers administered through the Bank had been subject to review by the Board.[61] Finally, there was a widely shared consensus among the participants in the focus groups that significant expansion of the Board's jurisdiction would impede the water transfer process.

Nevertheless, there are three problems with the existing law regarding review of water transfers. First, from the perspective of the parties to the transfer, the principal advantage of Board review is the opportunity to obtain legal authorization *before* the water is transferred. This approval insulates the parties from subsequent legal actions for damages allegedly caused by the transfer that may be brought by third parties. The advantages of this system are not currently available to pre-1914 appropriators and other users who do not fall within the Board's statutory jurisdiction. These parties run the risk of a *post hoc* judicial determination that the transfer is illegal and that they therefore must pay damages to third parties who are injured by the transfer. Second, the time and expense associated with the Board's review of transfers over which it does have jurisdiction may frustrate some short-term transfer proposals, because the need for the water may have passed by the time the Board conducts the review and authorizes the transfer.[62] Third, the statutory protections for fish, wildlife, and other instream uses that may be adversely affected by water transfers apply only to transfers over which the Board has jurisdiction.[63] Thus, the restricted scope of the Board's review authority severely limits the applicability of the laws that protect these third party interests.

D. Protection of Third Parties.

All water transfers are limited by the long-standing principle that the transfer must not harm other water right holders. This limitation is part of the common law of water rights and therefore is applicable to transfers of water based on pre-1914 appropriations,[64] as well as to transfers of water appropriated pursuant to permit or license.[65] As just noted, however, the statutory protections for fish, wildlife, and other instream uses are contained in the same laws that govern the Board's water transfer jurisdiction and therefore are inapplicable to transfers over which the Board has no review authority. Moreover, the one statute that purports to prevent water transfers that would "unreasonably affect the overall economy of the area from which water is being transferred" has never been used.[66] Thus, the current laws grant non-proprietary third party interests only sporadic and haphazard recognition.

E. Transfers to Instream Uses.

In 1991, the Legislature authorized existing water right holders to petition the State Water Resources Control Board to change their water right "for purposes of preserving or enhancing wetlands habitat, fish and wildlife resources, or recreation in, or on, the water."[67] A variety of questions have been raised concerning the administration of this provision. One of the most important questions is how the Board and other regulatory agencies would treat water that is dedicated to instream uses in the form of a water right. As Greg Thomas recently observed,

59. *Id.* §§ 1435, 1701, 1725, 1735.

60. *See* Gray, *supra* note 20, at 39.

61. Gray, *supra* note 36, at 43.

62. *Id.*

63. *See* CAL. WATER CODE §§ 386, 1435(b), 1725, 1736; *cf. id.* § 1021(b) (water leases "shall include enforceable terms which will ensure that the water lease will not injure any legal user and will not unreasonably affect fish, wildlife, or other instream beneficial uses").

64. Scott v. Fruit Growers Supply Co., 258 P. at 1097; Butte T.M. Co. v. Morgan, 19 Cal. at 615; *cf* CAL. WATER CODE §1706 (West 1996) (codifying common law rule)

65. CAL. WATER CODE § 1702 (West 1996).

66. *Id.* § 386; *see* Appendix B, *infra*.

67. CAL. WATER CODE § 1707 (West 1996).

> Potential market participants face an obstacle that [California's instream use statute] does not address and that can only be solved legislatively: under current law, water transfers to instream uses will not, in most cases, create increased stream flows because preexisting streamflow requirements will simply absorb the transfers.[68]

Where regulatory standards are established in the form of ambient water quality or flow requirements, there is a danger that the dedication of water to instream uses in the form of an instream water right simply would allow the other water users who are subject to the regulatory standards to increase their diversions until ambient water quality or stream flows return to the regulatory minima. Thus, instream water rights would "merely replace water used to meet regulatory instream flow requirements" and would not "yield a net increase in actual instream flows" or water quality.[69] Until this question is answered, transfers to instream uses will be deterred, because the transferor has no assurance that the dedication of water will serve the transferor's intended purposes.

F. The Role of Local Water Agencies.

One of the most vexing issues of California water policy over the past decade has been the relationship between local water agencies and their members or customers who seek to transfer water. Most of the developed water in this state is supplied to the end user by an intermediary agency—an irrigation district, water district, water storage district, municipal water district, or some other form of local water agency. In many cases, the water right is held by the agency. The Turlock Irrigation District, which has pre-1914 appropriative rights to the Tuolumne River, is an example. In other situations, the water right is held by a statewide agency—such as the Bureau of Reclamation for the CVP or the Department of Water Resources for the State Water Project—which delivers water by contract to member agencies. The local agencies then distribute the project water to their respective members. And, in a few cases, water is delivered from the water right holder to a county water agency to member water districts and then distributed to individual farmers. The Kern County Water Agency, which receives water from the State Water Project and distributes projectwater to member districts within the County, is an example of this type of arrangement.[70]

California law presently authorizes members of local water supply agencies to transfer their individual allotments, but only with the consent of the agency.[71] For example, farmers in the Turlock Irrigation District (TID) may sell their individual shares of the water allocated by the District to another water user (such as the neighboring Modesto Irrigation District or the City and County of San Francisco, which also appropriates water from the Tuolumne River), but only with the consent of the TID's board of directors. Indeed, in a well publicized case from the mid-1980's, a group of farmers in the Berrenda-Mesa Irrigation District received authorization from the District to transfer their water allocations to users located outside Kern County, but the transfer was vetoed by the Kern County Water Agency (KCWA), which supplies the water to Berrenda-Mesa. KCWA took the position that if there was "surplus" water available, it reverted (without compensation) to the agency for use within Kern County.[72] Thus, while existing law recognizes that individual water users possess transferable entitlements to the water they receive from the agency, transfers of those entitlements are impossible without the approval of the agency that holds the underlying water right or, in the case of CVP and SWP contractors, the intervening contract right.

The current law suffers from a fundamental contradiction. On the one hand, the transfer statutes are premised on the theory that the price incentives offered by potential buyers will motivate existing water users to use water more efficiently and to transfer water in situations where the net revenues from conservation and transfer are likely to exceed those generated by the users' current practices. On the other hand, the law vests the ultimate power to decide whether to enter into transfers in the boards of directors of the local agencies that deliver water to the users, rather than in the users themselves. The current law therefore separates the financial incentives that are intended to motivate water users to conserve and transfer from the authority to decide whether the transfers may in fact occur.

G. "Wheeling."

The Legislature enacted a set of laws in 1986 to govern "wheeling." The statute authorizes "bona fide transferors of water" to use up to seventy percent of the "unused capacity" of water conveyance facilities owned or operated by public water agencies to trans-

68. Gregory A. Thomas, *Conserving Aquatic Biodiversity: A Critical Comparison of Legal Tools for Augmenting Stream Flows in California*, 15 STAN. ENV. L.J. 3, 49 (1996).

69. *Id.*

70. *See generally* Barton H. Thompson, Jr., The Future of Water Markets: Emerging Institutions, Shifting Paradigms, and Organizations 19–21 (1993) (unpublished manuscript) (on file with the author).

71. CAL. WATER CODE §§ 383, 1745 02 (West 1996).

72. For a more detailed description, see generally, Brian E. Gray, Bruce C. Driver & Richard W. Wahl, *The Transferability of Water Provided by the State Water Project and the Central Valley Project A Report to the San Joaquin Valley Drainage Program*, *in* THOMAS & LEIGHTON-SCHWARTZ, *supra* note 43.

port the water that is the subject of the transfer agreement.[73] These laws are important, because the availability of a physical means of conveyance is essential for the implementation of most water transfers.[74]

In recent years, however, several important questions have arisen under these laws. First, the wheeling statute defines "unused capacity" as the "space that is available within the operational limits of the conveyance system and which the owner [of the system] is not using during the period for which the transfer is proposed and which space is sufficient to convey the quantity of water proposed to be transferred."[75] It is unclear whether this definition requires the agency to determine the amount of unused capacity available for wheeling transferred water based on its own water supply commitments that exist at the time the wheeling request is made, or whether the agency may conclude that it has no unused capacity within its system because it *might* need to use the full capacity of its system at a later date.

Second, the statute requires the wheeling parties to pay the agency "fair compensation" for the use of its system and defines "fair compensation" as the "reasonable charges incurred by the owner of the conveyance system, including capital, operation, maintenance, and replacement costs, increased costs from any necessitated purchase of supplemental power, and including reasonable credits for offsetting benefits for the use of the conveyance system."[76] This definition does not state clearly whether the agency may charge the wheeling parties only for the additional costs attributable to the conveyance of the wheeled water, or whether the agency also may impose charges designed to ensure that the wheeling parties pay the same rates for use of the agency's facilities as paid by the agency's own members and customers.

Third, although existing law authorizes the agency to establish conditions on wheeling that include "water quality requirements,"[77] it does not adequately address the respective rights of the parties where the water proposed for wheeling through the agency's system is of substantially different quality than the agency's water. The agency has a vital interest in protecting the quality of the water within its system, because treatment is expensive and, in some cases, it may not be possible to adequately treat the blended water using the agency's existing treatment facilities. Moreover, the effects of water quality degradation may last for years beyond the initial introduction of the "wheeled" water into the agency's water supply system.

These and other questions have been at the heart of the recent dispute between the Metropolitan Water District (MWD) and its largest member agency, the San Diego Water Authority. In response to San Diego's request to wheel water through the Colorado Aqueduct and other MWD facilities, MWD recently adopted a set of "Wheeling Principles." These principles would allow San Diego and other parties to use MWD's system to wheel transferred water subject to ten conditions:

1. *Level Playing Field.* Metropolitan customers receiving comparable service must pay comparable costs for service.

2. *Cost Recovery.* Wheeling charges must fully recover properly allocable fixed and variable costs of conveying water through Metropolitan's fixed system.

3. *Financial Impacts.* Use of Metropolitan's system for wheeling must create no financial harm to non-participating member agencies.

4. *Capital Commitments.* Metropolitan's wheeling charges must recover a fair share of committed capital expenditures on the same basis as for customers receiving comparable service.

5. *Recognition of Wheeling Benefits.* Wheeling arrangements will account for benefits to the Metropolitan system on a case-by-case basis as mutually agreed by the wheeling party and Metropolitan.

6. *Wheeling Capacity.* The use of Metropolitan's delivery system for wheeling of water supplies must not result in a reduction in Metropolitan's ability to meet its water service obligation to its member agencies.

7. *Reliability.* Use of Metropolitan's delivery system for the wheeling of water supplies must not result in a reduction in reliability to member agencies.

8. *Water Quality.* Wheeling must not result in unmitigated adverse water quality impacts.

9. *Resource Management.* Wheeling policies and arrangements must be consistent with the ongoing commitment of Metropolitan and its member agencies to water management programs such as reclamation and conservation.

73. CAL. WATER CODE §§ 1810–1814 (West 1996).

74. *See* THOMPSON, *supra* note 70, at 16–18.

75. CAL. WATER CODE § 1811(e) (West 1996).

76. *Id.* § 1811(c).

77. *Id.* § 1812(b).

10. *Wheeling Preference.* Metropolitan should accommodate wheeling arrangements that would result in water deliveries to member agencies before arrangements that would result in deliveries to non-members.[78]

San Diego has argued that these conditions are contrary to the wheeling provisions of the Water Code. It contends that MWD's interpretation of the law would allow MWD to claim most of the consumer surplus associated with the transfer.

The MWD-San Diego controversy raises an array of other questions that are beyond the scope of this report. Nevertheless, it provides ample evidence that the existing law does not adequately define the respective rights of the parties to wheeling arrangements. Commentary from the focus groups confirms this conclusion.[79]

H. Surface Water Transfers and Groundwater Replacement.

During the last drought, a number of surface water users who transferred water to the State Water Bank increased their use of groundwater to replace the transferred surface water. Although Water Bank officials approved this practice, a variety of overlying landowners, water managers, and other public officials in Yolo and Solano Counties expressed concerns that this type of conjunctive use could harm other groundwater users and perhaps cause compaction of the aquifer.[80] This experience confirmed fears expressed by water users throughout the Central Valley that unregulated use of groundwater to replace surface water transferred out-of-basin may cause or exacerbate conditions of groundwater overdraft.

The Legislature addressed this problem in a 1992 statute that prohibits surface water transferors from replacing the transferred water with groundwater unless the groundwater extraction is either: (a) consistent with an authorized groundwater management plan; or (b) approved by "the water supplier from whose service area the [surface] water is to be transferred and that water supplier ... determines that the transfer will not create, or contribute to, conditions of long-term overdraft in the affected groundwater basin."[81]

While this law responds to the concerns of landowners and other parties that may be adversely affected by groundwater overdraft, it suffers from two problems. First, the restriction on conjunctive use applies only to surface water transfers governed by the 1992 act, which covers water transfers by local agencies and their members. Because the statute is the only legislation that protects groundwater resources from surface water transfers, the existing law is of limited application.[82] Second, as a categorical prohibition, the act would presumptively ban surface water transfers that involve substituted groundwater use by the transferor even in areas of the state with high and replenishable groundwater tables where these types of conjunctive use transfers should be encouraged. Although the statute allows local water agencies to approve such transfers, it creates no standards to govern this process. Moreover, the law delegates to *surface* water agencies authority to regulate groundwater use, which the agencies would not have in the absence of the surface water transfer.

I. California Environmental Quality Act.

The California Environmental Quality Act (CEQA) requires public agencies that transfer water to prepare an environmental impact report on the proposed transfer if the agency's actions "may have a significant impact on the environment."[83] The environmental review provisions of CEQA also apply to the State Water Resources Control Board when it reviews water transfer petitions. Existing law exempts some short-term transfers from CEQA.[84]

Environmental impact reports prepared under CEQA often provide valuable information about the potential consequences of water transfers on the natural environment, and CEQA itself requires the parties

78. METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA, WHEELING PRINCIPLES (Nov 19, 1996).

79. At this writing, San Diego has entered into a draft agreement with the Bass Brothers of Fort Worth, Texas, who own approximately 40,000 acres of irrigated land in the Imperial Valley, to purchase water that would be wheeled to San Diego through Metropolitan Water District (MWD) facilities. MWD continues to oppose the transfer. *See* James Sterngold, A *Blow for Water Independence: San Diego Strikes Deal with Imperial Valley, Irking Los Angeles*, N.Y. TIMES, Aug. 6, 1996, at A1, col. 2.

80. *See* Eduardo Bautista & Edward McBean, *Effects of Water Marketing on Physical and Biological Resources*, *in* CARTER, VAUX & SCHEURING, *supra* note 47, at 57, 66–75.

81. CAL. WATER CODE § 1745.10 (West 1996).

82. Section 1220 of the California Water Code provides that

> [n]o groundwater shall be pumped for export from within the combined Sacramento and Delta-Central Sierra Basins, as defined in Department of Water Resources' Bulletin 160–74, unless the pumping is in compliance with a groundwater management plan that is adopted by ordinance ... by the county board of supervisors, in full consultation with affected water districts, and that is subsequently approved by a vote in the counties or portions of counties that overlie the groundwater basin

Id. § 1220. Although this statute could be applied to limit transfers of surface water for which groundwater is substituted, it is easily circumvented. As occurred with transfers to the 1991 Water Bank, the transferor could claim that there is no export of groundwater because only the surface water is physically transferred out of basin. The groundwater that the transferor uses to replace the exported surface water remains in-basin. For a more detailed analysis, see Gray, *supra* note 36, at 34–36.

83. CAL. PUB. RES. CODE § 21080 (West 1996).

84. CAL. WATER CODE § 1729 (West 1996).

to undertake "feasible mitigation measures" to lessen significant adverse environmental effects.[85] For water transfers that are subject to the jurisdiction of the State Water Resources Control Board, however, the CEQA requirements are often duplicative of the Board's own review and decisionmaking processes. Such duplication unnecessarily increases transaction costs and should be avoided where the water transfer laws themselves provide adequate procedural and substantive standards to protect the natural environment.

J. Transfers Under the Central Valley Project Improvement Act.

In the Central Valley Project Improvement Act of 1992 (CVPIA), Congress authorized CVP users to transfer project water within or outside the existing CVP service area.[86] Although the CVPIA provides that all transfers of project water must comply with California law,[87] it also establishes a complex set of federal standards with which transfers of CVP water must comply. These federal criteria include:

1. The transfer may not exceed the average quantity of water delivered to the transferor or contracting agency that supplies water to the transferor "during the last three years of normal water supply" preceding the enactment of the CVPIA.

2. Transfers are limited to "water that would have been consumptively used or irretrievably lost to beneficial use during the year or years of the transfer."

3. The Secretary of the Interior must determine that the transfer would not create "significant long-term adverse impact on groundwater conditions in the transferor's service area."

4. The Secretary also must conclude that the transfer "will have no significant adverse effect" on the delivery of water to meet CVP contract obligations and for fish and wildlife as required by other provisions of the CVPIA.

5 The Secretary may not approve a transfer if he determines that the transfer "would result in a significant reduction in the quantity or decrease in the quality of water supplies currently used for fish and wildlife purposes, unless the Secretary determines ... that such adverse effects would be more than offset by the benefits of the proposed transfer."

6. Other CVP contractors have a right of first refusal to purchase water offered for transfer to users located outside the service area of the CVP.[88]

Transfers of project water to non-CVP users also are subject to a $25 per acre-foot surcharge that is payable to the Fish and Wildlife Restoration Fund established by the Act.[89]

Perhaps the most important water transfer provision of the CVPIA is the modification of the authority that local agencies have under California law to veto or to place conditions on transfers proposed by their members. The Act states that local agencies have no authority over user initiated transfers of up to twenty percent of the water delivered by the CVP to the agency."[90] For transfers that exceed twenty percent of project deliveries, the Act limits the agency's review authority to the criteria set forth above.[91]

The CVPIA was an historic and important enactment, and its water transfer provisions were needed to dispel an array of significant questions about the transferability of project water.[92] Yet, the special water transfer rules of the CVPIA conflict in some cases with the requirements of California law, and the resolution of these conflicts is difficult to predict because the CVPIA mandates compliance both with the federal transfer standards and California water transfer law. Moreover, the existence of federal standards to govern transfers of CVP water and separate state standards to govern all other surface water transfers is likely to produce confusion and concerns about unequal treatment. Local agency authority, which is unfettered by California law, is now divided and circumscribed by the provisions of the CVPIA. And, third party interests, which are given sporadic and inconsistent recognition under state law, are afforded far more certain protection by federal law. As transfers of CVP water–particularly long-term transfer agreements with non-CVP users–become accepted and routine, the need for separate legal standards to govern the CVP may well diminish.

85. CAL. PUB. RES. CODE § 21002 (West 1996).

86. Pub. L. No. 102-575, § 3405, 106 Stat. 4706, 4709 (1992).

87. *Id.* §§ 3405(a)(1)(E), 3411(a).

88. *Id.* § 3405(a)(1)(A)–(M).

89. *Id.* § 3407(d)(2)(A).

90. *Id.* § 3405(a)(1).

91. For an analysis of the water transfer provisions of the CVPIA, see Gray, *supra* note 38, at 285–95.

92. *See* Brian E. Gray, et al., *Transfers of Federal Reclamation Water: A Case Study of California's San Joaquin Valley*, 21 ENVTL. L. 911 (1991).

IV. A Model Water Transfer Act

The Model Water Transfer Act (Model Act) addresses many of these "second generation" issues and proposes extensive amendments and additions to the current water transfer system. The Model Act embodies most of the ideas developed by the author, the Advisory Group members, and the participants in the focus groups. In two areas—the scope of the Act and the provisions on local agency authority—the Model Act reflects by omission contemporary political realities and leaves for "third generation" studies important questions regarding transfers of groundwater, mandatory review of transfers of water based on pre-1914 appropriative rights, and the authority of local agencies over transfers proposed by their members and customers. In a third area—resolution of the inconsistencies between California water transfer law and the transfer provisions of the CVPIA—the Model Act recognizes that state legislative reform cannot alter federal law. The approach to common issues set forth in the Model Act and in this report may serve as a guide, however, to future consideration of the CVPIA transfer rules.

A. A Unified Water Transfer Law

Although an original purpose of the project was to draft a comprehensive statute that would govern transfers of *all* types of water and water rights, practical and political realities have produced a Model Act of more limited scope. Except for an important provision on the conjunctive use of groundwater to replace surface water that is transferred out-of-basin, the Model Act does not apply to groundwater. Early in the drafting process, it became apparent that unified coverage of transfers of groundwater and surface water would require creation of a groundwater *management* code—a task that is far beyond the scope of this project.[93]

Another early purpose of the project was to draft a unified set of surface water transfer laws that would govern transfers of all types of surface water, including transfers of water based on pre-1914 appropriations. While many provisions of the Model Act apply to transfers of all surface water, the central sections that establish pre-transfer review processes apply to transfers of water based on pre-1914 rights only at the option of the water right holder.[94] In this respect, the Model Act does not propose to expand the *mandatory* jurisdiction of the State Water Resources Control Board. Both current law and the Model Act require review by the Board only for transfers of surface water that involve a change in a permit or license administered by the Board.

The Model Act contains an important addition to current law, however. It would allow pre-1914 appropriators and other transferors of surface water not subject to the Board's mandatory jurisdiction to submit transfer proposals to the Board to take advantage of the pre-transfer authorization provisions of the Act that would insulate the transferor from *post hoc* claims for injunctive relief or damages.[95] The Model Act also would permit such transferors to employ the expedited processes applicable to transfers of conserved water.[96] To the extent that pre-1914 appropriators and other transferors avail themselves of these sections, third parties potentially affected by such transfers would benefit by the application of a variety of procedural and substantive protections for fish, wildlife, other instream uses, groundwater resources, and local economies that do not exist under current law.

Finally, in marked contrast to the existing water transfer statutes, the Model Act would establish a single, unified set of transfer rules. Thus, provisions that ensure compliance with water quality standards and other environmental laws, terms that govern transfers within or through the Delta, protections for groundwater resources, and clarifications of the relationship between the transfer laws and CEQA would apply to *all* surface water transfers, not simply to transfers based on specific statutory sections as is the case with existing law.[97] Moreover, there would be a single set of procedures and standards to govern transfers that are subject to the jurisdiction of the Board, rather than the multiplicity of rules discussed above.[98] This reform also would ensure that the procedural and substantive protections for third parties apply in all cases that come before the Board for its review and authorization.

Part B of the Model Act defines the scope of its coverage and sets forth many of the other provisions that would apply to all transfers of water governed by the Act.

93. Thus, while the Model Act proposes to revise section 1745.10 of the Water Code, which governs the use of groundwater to replace transferred surface water, it does not address section 1220 of the Code because that section governs groundwater *per se*, rather than groundwater in conjunctive use with surface water transfers. *See supra* note 82.

94. MODEL WATER TRANSFER ACT FOR CALIFORNIA, *reprinted in* 4 WEST-NORTHWEST 3, Parts D & E.

95. *Id.* Part D.

96. *Id.* Part E.

97. *See id.* Parts B, C, F, H, I & J.

98. *See, e.g.*, CAL. WATER CODE §§ 380–387, 1020–1030, 1435–1442, 1700–1705.5, 1725–1740 (West 1996)

B. Enhanced Protection of Water Rights

The Model Act would strengthen the legal protections afforded water right holders and other water users who transfer surface water. These enhanced legal protections would apply to all stages of the transfer process, including the consideration and negotiation of transfer agreements, the conservation and offer of water for sale, the use of water during the term of the transfer agreement, and the reversion of all rights to the transferor at the conclusion of the transfer agreement.

Two of the provisions on water rights are particularly significant. First, the Model Act states that, throughout the term of all water transfer agreements, compliance with Article X, Section 2 of the California Constitution and other laws governing waste and unreasonable use "shall be determined based on an assessment of the reasonableness of the *transferee's* use of the transferred water." This provision is of special importance to transfers of surplus water or of water that the transferor has conserved through salvage or other changes in efficiency of use. In such cases, the security of the transferor's future rights to the water may be in question. The shift of focus from the transferor's practices to the transferee's uses is designed to assure both parties that the transferor's alleged prior waste, unreasonable use, or non-use of the transferred water will not be a basis for reduction or divestment of the rights to the transferred water during the term of the transfer agreement.

The Model Act thus would codify the practice employed by the State Water Resources Control Board with respect to the Imperial Irrigation District's transfer of conserved water to the Metropolitan Water District. In that case, the Board permitted IID to conserve and transfer water that the Board had concluded was subject to defeasance for prior waste and unreasonable use.[99] The Board's decision was based on a policy trade-off. The Board may be criticized on the ground that it rewarded past waste and unreasonable use by allowing IID to retain the economic value of water to which it arguably has no rights because of its earlier wasteful practices. Yet, the Board appropriately decided not to divest IID of the water subject to the unreasonable use order because it concluded that IID's conservation and transfer of such water both would improve the efficiency of IID's water supply practices and would result in greater allocative efficiency by allowing the conserved water to be transferred to higher valued uses within MWD.[100]

The Model Act adopts this same philosophy. Although it would be possible to rely exclusively on the waste and unreasonable use laws to enhance the efficiency of water use in California, it is preferable to employ the water transfer laws to achieve the same purpose. The Board has exercised its powers under Article X, Section 2 and related laws exceedingly sparingly, and that practice is unlikely to change in the near future. Moreover, reallocation of water and other resources by government fiat should be a last resort, reserved for those situations in which alternative means (such as the market) are not available. In this case, water transfers provide a viable alternative to governmental forfeiture of water rights and therefore should be the preferred alternative. The Model Act would not remove the Board's authority to enforce the reasonable use laws. Rather, it simply would direct the Board not to employ such laws to divest a user of water where that user voluntarily, or under threat of state sanction, corrects past waste or unreasonable use and transfers the water conserved by such efforts to a reasonable and beneficial use.

The second significant change to the existing protections for water rights is the declaration that, at the end of the term of a water transfer agreement, all rights in, and to the use of, the water subject to the transfer agreement shall revert back to the transferor. This declaration would be reinforced by the directive that neither the transferee nor any other beneficiary of the transfer may bring a claim for a continuation of the water supply made available by the transfer agreement and by the prohibition of claims to a continued supply of water based on reliance, estoppel, intervening public use, water shortage emergency, unforeseen or unforeseeable increases in demand, or any other cause.

This provision is based on statements from all of the focus groups that existing law does not contain adequate assurances that the transferor's rights will be respected at the conclusion of the term of water transfers, particularly long-term transfer agreements. The declarations set forth in the Model Act provide the strongest possible legal protections for the reversionary rights of transferors.

The "Protection of Water Rights" sections appear in Part C of the Model Act.

C. Expedited Transfer Processes

One of the principal goals of the project has been to devise alternative means of transferring water on an expedited basis while strengthening

99. *See* Imperial Irrigation District v. State Water Resources Control Board; 225 Cal. App. 3d 548 (1990); Imperial Irrigation District v. State Water Resources Control Board, 225 Cal. App. 3d 1160, 231 Cal. Rptr. 283 (1986).

100. For more detailed analyses, see Gray, *supra* note 38, at 296-306; McMorrow & Schwasz, *supra* note 15, at 149–66.

the protections in existing law for third parties who may be adversely affected by water transfers. The Model Act contains a variety of proposed changes that would help to accomplish this goal. These changes include:

1. *Improvement of the Procedures Governing State Water Resources Control Board Review of Petitions to Transfer Water.*

As described above, the State Water Resources Control Board presently has jurisdiction over petitions to transfer water that require a change in a permit or license issued by the Board. The Model Act would not expand this jurisdiction, except to make this pre-transfer review available to other transferors at their option. Based on comments received from several of the focus groups, however, the Model Act would amend the procedures by which the Board evaluates water transfer petitions. The Model Act defines these procedures in substantially greater detail than does existing law and imposes specific time limits on the Board's exercise of its investigation, review, and decisionmaking responsibilities. Moreover, in an effort to expedite transfers during droughts and other water emergencies, the Model Act exempts short-term transfers from the hearing requirements of existing law. These procedural changes appear in Part D, section 403 of the Model Act.

2. *Creation of an Expedited Process for Transfers of Conserved Water.*

In a provocative article on water transfers and third party interests, Joseph Sax urged that new transfer laws endeavor to protect third parties through what he termed "formulaic" limitations. The alternative approach of "extensive participation and elaborate public interest hearings" he observed, "threatens to make all but the largest water transfers uneconomic and untimely."[101]

Consistent with this exhortation, one of the central features of the Model Act is the creation of an expedited process for transfers of water conserved or salvaged by the transferor. The goal of this process is to permit certain types of transfers to occur relatively quickly and inexpensively without substantive pre-transfer review by the State Water Resources Control Board and without *post hoc* substantive review by the courts. As a substitute for these procedural safeguards for third parties who may be adversely affected by expedited transfers, the Model Act would subject such transfers to a *categorical* protection for third party interests. This categorical protection is written in the form of a restriction on the quantity of water that may be transferred on an expedited, non-reviewable basis. Thus, the Model Act would limit expedited transfers to the transferor's historic consumptive use plus water irretrievably lost to all beneficial uses. Because this water would not be available for other legal water users, instream uses, and groundwater recharge even if the water transfer did not occur, third parties would not be harmed by the transfer of such water. The standards and procedures governing expedited transfers of conserved water are set forth in Part E of the Model Act.

3. *Amendment of the California Environmental Quality Act.*

As noted previously, the environmental review requirements of the California Environmental Quality Act serve the valuable function of informing decisionmakers and the public about the potential environmental consequences of proposed government actions. In the water transfer area, however, the application of CEQA to petitions that are subject to the jurisdiction of the State Water Resources Control Board can result in duplicative review and unnecessarily increase transaction costs without concomitant environmental benefits. To address this problem, the Model Act would amend CEQA in two ways. First, CEQA would not apply to short-term transfers, which the Act defines as transfer agreements the term of which is two years or less. Second, the environmental review requirements of CEQA would commence only at the time a public agency decided whether to approve, to amend, to renew, or to rescind a transfer agreement.[102] The amendments to CEQA are contained in Part B, section 209 of the Model Act.

4. *Authorization of a State Water Bank and Regional Water Banks.*

In a recent study of water banking in the western states Lawrence MacDonnell concludes that "[w]ater banks offer a highly flexible framework within which water transfers may occur. They can operate at any level, ranging from interstate down to water district or ditch company. ... As an institutionalized mechanism intended to facilitate water

101. Joseph L. Sax, *Understanding Transfers: Community Rights and the Privatization of Water*, 1 WEST-NORTHWEST 13, 16 (1994).

102. The penultimate draft of the Model Act also provided that the California Environmental Quality Act (CEQA) would not apply to long-term transfer agreements that are submitted to the Board for review pursuant to Parts D or E of the Act. The purpose of this change was to recognize that the Board's review is the functional equivalent of an environmental impact report and that a categorical exemption from CEQA would help to expedite the transfer process without neglecting environmental considerations. During the final consideration of the Model Act, however, this provision was removed at the request of agricultural, environmental, and rural advocates who expressed the concern that CEQA review would provide valuable information about the potential environmental effects of water transfers that would not be gained during the Board's review process.

transfers they can develop clear, well defined rules and procedures that should help to reduce transaction costs."[103] The 1991–1992 Emergency Drought Water Bank confirms that a statewide bank can provide a valuable service in bringing together potential buyers and sellers and, under severe time constraints, administer an extensive water transfer program with due regard to the rights of both the participants and third parties.[104] Moreover, as noted earlier, a number of regional water banks and exchange pools have operated informally in California for many years.

The Model Act would build on these experiences and authorize the creation of a State Water Bank and regional water banks. The banks would be empowered to undertake a variety of actions to facilitate voluntary water transfers. As with the 1991–1992 State Water Bank, the banks would have authority to supervise transfers that are exempt from mandatory review by the Board. Moreover, the State Water Bank would be given permanent authority to administer the expedited transfer provisions of Part E, and the Board could delegate similar authority to regional water banks. This direct supervision of expedited transfers would reduce duplicative administrative requirements and would enhance the ability of agencies involved in the day-to-day administration of expedited water transfers to move water quickly through the banks. The water bank provisions of the Model Act appear in Part J.

D. Expanded Protections for Third Party Interests

The National Research Council concluded its influential report on water transfers with the observation that

> recognition and protection of third party interests are essential if water transfers are to achieve their potential to reallocate water to meet new demands. ... Transfers can bring the benefits of the market to a system that has often subordinated efficiency to distributional concerns. But the West has never treated water as just another commodity and should not do so now. There must be a balance between efficiency and fairness. Each jurisdiction must devise its own laws and processes to achieve this balance.[105]

The Model Act would expand the existing protections for third party interests in a variety of ways:

1. *Improvement of Considerational Protections.*

As described above, the State Water Resources Control Board would have jurisdiction under Part D of the Model Act over water transfers that require a change in a permit or license administered by the Board and other transfers that the parties may submit to the Board for its review. The Board would evaluate proposed transfers under a set of three substantive standards that are designed to ensure that third parties would not be harmed by the transfer of water. Based on suggestions received from the focus groups, these standards create a legal hierarchy that would distinguish between transfers that are unlikely to harm third parties (for example, short-term transfers and transfers limited to the transferor's prior consumptive use) and those that have greater potential to cause harm to other legal water users, instream uses, and local economies (for example, long-term transfers based on the fallowing or retirement of previously irrigated land). This legal hierarchy would be divided in the following manner:

a. Short-term Transfer Agreements.

For short-term transfers—which the Model Act defines as proposals or agreements the term of which is two years or less—the Board would be directed to approve the proposal unless it determined that the transfer would result in significant injury to any legal user of water or would unreasonably affect fish, wildlife, or other instream beneficial uses. The petitioner would have the burden of producing *prima facie* evidence that the proposed transfer would comply with these standards. The establishment of a *prima facie* case then would shift the burden of proof to opponents of the transfer to establish that the proposed transfer would *not* comply with the foregoing requirements.

b. Long-Term Transfer Agreements.

Long-term transfers—proposals or agreements to transfer water over a term longer than two years—have a far greater potential to cause irreparable harm to third parties. For this reason, the Model Act would prohibit the Board from approving a long-term transfer *unless* it concluded that the transfer would not result in significant injury to any legal user of water and would not unreasonably affect fish, wildlife, or other instream beneficial uses. In these cases, the burden of proof would remain on the petitioner throughout the proceedings.

103. Lawrence J. MacDonnell, *Untangling the Gordian Knot of Western Water*, 41 ROCKY MT. MIN. L. INST. 22-1, 22-60 (1995).

104. *See* CARTER, VAUX & SCHEURING, *supra* note 47.

105. NATIONAL RESEARCH COUNCIL, WATER TRANSFERS IN THE WEST: EFFICIENCY, EQUITY, AND THE ENVIRONMENT 8 (1992).

c. Long-Term Agreements Based on Land Fallowing or Retirement.

Some types of long-term transfers have the potential to create undue burdens on the economies and local governments in the area from which water was transferred. For example, in 1992, the Yolo County Board of Supervisors

> submitted a $129,305.00 bill to the Department of Water Resources for reimbursement of the County's additional expenditures for General Assistance and Aid to Families With Dependent Children allegedly caused by the increase in unemployment attributable to land fallowing and the transfer of water to the 1991 Water Bank. The Board of Supervisors estimated that the fallowing of 40,200 acres in Yolo County decreased the demand for agricultural labor, services, and supplies within the County and consequently put 450 persons out of work. The unemployed workers then made claims for general assistance and AFDC entitlements, which in turn increased the County's social services costs by $129,305.00.[106]

Although this claim was not sustained, it does illustrate the concerns that local communities have that some water transfers based on land fallowing or retirement may cause unemployment, reduce local taxes, and increase social services expenses.

To address these concerns, the Model Act would impose a third substantive criterion on long-term transfers that are derived from the fallowing or retirement of previously irrigated land and that would change the place of use or transfer the water to uses outside the county or counties in which the water previously has been used. In addition to the standards that protect other legal water users and fish, wildlife, and other instream beneficial uses described above, the Board could not approve a petition for this type of transfer if it concluded that "the proposed transfer would cause substantial harm to the economy in the area from which the water is to be transferred." In making this determination, the Board would be required to "consider any actions that the petitioner or other parties to the transfer agreement have taken to mitigate harm to the economy in the area from which the water is to be transferred." The burden of proof would be placed on the petitioner.[107]

These substantive standards are derived from existing law, which contains protections for other legal water users; fish, wildlife, and other instream beneficial uses; and, in one instance, the local economy of the area from which water is transferred. The Model Act would expand these protections in two ways. First, as discussed above, it would create incentives for transferors who are not currently subject to the Board's jurisdiction to use the water transfer procedures set forth in Part D. To the extent that this occurs, these transfers would be governed by the substantive third party protection standards. Second, the lone protection for local economies in current law applies only to transfers of conserved or surplus water governed by sections 380–387 of the Water Code.[108] This statute has never been applied, because no transfers have been undertaken pursuant to these sections of the Code.[109] By extending the protection for local economies to all transfers reviewed by the Board under Part D, the Model Act would ensure that this third party interest is included in the evaluation of all long-term transfers based on the fallowing or retirement of previously irrigated land, which are the transfers that have the greatest potential to harm local economic interests.

The third party protections standards applicable to transfers of water pursuant to Part D of the Model Act are set forth in section 404.

2. *Categorical Protection of Third Parties Potentially Affected by Expedited Transfers of Conserved Water.*

For expedited transfers of conserved water undertaken pursuant to Part E, the Model Act provides a different type of protection for third party interests. As described above, expedited transfers are limited to the transferor's historic consumptive use plus any water that is irretrievably lost to all beneficial uses. This limitation on the quantity of water that may be transferred on an expedited basis establishes a categorical protection for third parties, in contrast to the considerational approach applicable to transfers governed by Part D. Because

106. Gray, *supra* note 36, at 41.

107. In recognition of the desirability of encouraging water transfers to create financial incentives to retire irrigated land within the drainage problem area of the Western San Joaquin Valley, the standard of review described in this paragraph would not apply to long-term water transfers based on the fallowing or retirement of previously irrigated land within the San Joaquin Valley Drainage Program study area—as defined in U.S. DEPARTMENT OF THE INTERIOR & CALIFORNIA RESOURCES AGENCY, A MANAGEMENT PLAN FOR AGRICULTURAL SUBSURFACE DRAINAGE ON THE WESTSIDE OF THE SAN JOAQUIN VALLEY: FINAL REPORT OF THE SAN JOAQUIN VALLEY DRAINAGE PROGRAM (1990)—that the Board concludes would contribute to the reduction of agricultural drainage that adversely affects surface water or groundwater quality.

108. Section 386 of the Water Code states that the Board "may approve any change *associated with a transfer pursuant to this chapter* only if it finds that the change does not unreasonably affect the overall economy of the area from which the water is being transferred." CAL. WATER CODE § 386 (West 1996) (emphasis added)

109 *See* Appendix B, *infra*

the transferred water would not be available for other legal water users, instream uses, and groundwater recharge even if the expedited transfer did not occur, these third party interests should not be harmed by the transfer of such water.

To provide extra protection for local economies, the Model Act states that long-term transfers based on land fallowing or retirement are not eligible for the expedited transfer procedures and must be reviewed by the State Water Resources Control Board in accordance with the general transfer standards and procedures of Part D. Moreover, as an additional precaution, transferees who receive water transferred on a expedited basis would be required to post security of five dollars per acre-foot to provide monetary compensation to third parties who may be injured despite the categorical protections. Claims for compensation would be subject to binding arbitration. All funds not required to satisfy judgments based on the compensation claims would be returned to the transferee.

The categorical protections for third party interests associated with expedited transfers may be found in Part E, sections 502 and 503. The security and compensation provisions appear in Part E, sections 505 and 506.

3. *Protection of Groundwater Resources.*

As noted above, a 1992 statute that governs transfers of water by local agencies prohibits transferors of surface water from initiating or increasing their use of groundwater to replace the transferred surface water unless the groundwater pumping is authorized by a local groundwater management plan or is approved by the local agency.[110] The purpose of this statute is to guard against conditions of long-term overdraft of the groundwater basin.

The Model Act would change this statute in four respects. First, it would prohibit the substitution of groundwater for surface water transferred out of basins that the Department of Water Resources has designated in the Bulletin 118 Series as "subject to critical conditions of overdraft." This prohibition would not apply, however, to the use of groundwater that has been "stored for the purpose of subsequent extraction for surface water replacement or direct transfer as part of a groundwater banking program carried out by direct recharge, delivery of surface water *in lieu* of groundwater pumping, or by other means." The purpose of this restriction is to prevent surface water transferors from initiating or increasing their use of groundwater to replace exported surface water supplies in those basins that are in sustained conditions of overdraft. The groundwater basins that currently would be covered by this restriction are: the Santa Cruz-Pajaro basin; the Cuyama Valley basin; the Ventura County basin; the Eastern San Joaquin County basin; and the Chowchilla, Madera, Kings, Kaweah, Tulare Lake, Tule, and Kern County basins.[111] The list of groundwater basins protected by this export prohibition would change as DWR updates the Bulletin 118 Series.

Second, the Model Act would authorize transfers of surface water for which groundwater is substituted from basins that are not subject to critical conditions of overdraft, subject to three criteria:

a. The transferor must have legal authority to use groundwater and may not exceed his or her groundwater rights under state and local law.

b. The transferor's use of groundwater must be consistent with all valid laws that govern the extraction, appropriation, and use of groundwater, including groundwater management statutes, local groundwater management plans adopted pursuant to sections 10750 through 10755.4 of the Water Code, city or county ordinances authorized by the recent decision in *Baldwin v. County of Tehama*,[112] judicial decisions and decrees governing the extraction and use of groundwater, and the provisions of CEQA.

c. The transferor's use of groundwater may not cause the long-term operating safe yield of the groundwater basin to be exceeded.

Third, inasmuch as the purpose of local control is to protect the sustained production of the aquifer, the Model Act states that local groundwater management plans and ordinances may not prohibit the use of groundwater to replace transferred surface water except as necessary to ensure that the long-term operating safe yield of the aquifer is not exceeded as a result of the conjunctive use arrangement.

Fourth, these limitations on groundwater replacement would apply to *all* surface water transfers. In contrast, the existing restrictions apply only to transfers of surface water by local agencies governed by sections the 1992 legislation.[113]

110. CAL. WATER CODE § 1745.10 (West 1996).

111. CAL. DEP'T OF WATER RESOURCES, GROUND WATER BASINS IN CALIFORNIA: A REPORT TO THE CALIFORNIA LEGISLATURE IN RESPONSE TO WATER CODE SECTION 12924, 4 (1980) (Bulletin 118-80).

112. 31 Cal. App. 4th 166 (1994).

113. CAL WATER CODE § 1745.10 (West 1996).

The protections for groundwater resources are set forth in Part B, section 208, of the Model Act.

4. *Clarification of Other Laws Governing Protection of Third Party Water Rights, Instream Resources, and Water Quality.*

The final set of protections for third parties are clarifications of the responsibility of water transferors to comply with a variety of laws governing water rights, instream resources, and water quality. Thus, the Model Act would codify the established principle that, throughout the term of all water transfer agreements, the parties to the transfer

> shall comply with all requirements of federal law and state law where applicable, including but not limited to: Article X, Section 2 of the California Constitution; sections 1410-1418 of the California Civil Code; other provisions of this Code; terms and conditions imposed by permit or license administered by the State Water Resources Control Board; and other judicial and administrative decisions respecting water rights, water quality, and other beneficial uses.

Existing law also provides that water leases that transfer water within or through the Sacramento-San Joaquin Delta must include sufficient "carriage water" to maintain the same quality water that would exist in the absence of the lease, as well as water for salinity repulsion and other environmental purposes as required by the State Water Resources Control Board.[114] The Model Act would rewrite these requirements to state that transfers of water within or through the Delta may not cause a violation of the water quality standards (including flow requirements and temperature standards) applicable to the Delta as established under state and federal law. The Board would promulgate regulations to implement this requirement, and compliance with the regulations would be deemed compliance with the statutory requirement. The Model Act also would extend this protection for Delta water quality to *all* types of transfers within or through the Delta. In contrast, the current law limits the express statutory protections only to transfers based on the water leasing provisions of the Water Code.[115]

These clarifications are set forth respectively in Part B, sections 205 and 206.

E. Transfers to Instream Uses

The Model Act also would address the problem that transferors of water to instream uses have no assurance under existing law that the water they dedicate to instream protection will actually achieve their intended purposes. As described previously, this uncertainty arises because the current instream transfer law does not require water quality administrators to set aside from the regulatory standards water held in the form of an instream water right.

The Model Act declares that all water that is transferred to instream uses shall be in addition to water devoted to instream uses pursuant to federal, state, or local regulatory requirements. This would mean that the State Water Resources Control Board and other water quality agencies would be prohibited from including in their calculation of the amount of water or flows needed to meet water quality or minimum stream flow standards any water transferred to instream uses and thus held as an instream water right. Based on recommendations from the focus groups, the Model Act adds the caveat that if the transferor chooses to use the water transferred to instream uses for the purpose of satisfying its obligations under such regulatory standards, that water would be credited toward the transferor's regulatory responsibilities.

The instream transfer provisions are set forth in Part F of the Model Act.

F. Local Agency Authority and "User Initiated" Transfers

One of the original goals of the project was to define more precisely the respective powers of local water agencies and their members or customers who seek to transfer water. As discussed supra, Part III.F, California law presently authorizes water users within an agency to transfer their individual water entitlements, but only with the consent of the agency. This arrangement separates the price incentives that serve as the inducement to voluntary water transfers from the power to decide whether to engage in such a transfer. For a market-based allocational system to function properly, the price incentive, which is directed at the user, must be joined with the decisionmaking authority, which is now held by the agency.[116] Moreover, unlimited agency control may stifle transfers proposed by their members or customers, because the agency may claim as "surplus" any water that the users offer for sale to purchasers located outside the agency.[117] These concerns are particularly important in California, because the

114. *Id.* § 1027.

115. *Id.*

116. *See*, e.g., Gray, *supra* note 38, at 279–83

117. For a thoughtful analysis of this issue, see Thompson, *supra* note 18, at 723–39.

lion's share of water used in this state is supplied and therefore controlled by local water agencies.[118]

The draft of the Model Act that was reviewed by the focus groups addressed the question of user initiated transfers by establishing criteria to govern the local agency's consideration of transfers proposed by their members and customers. The draft provided:

> Notwithstanding any other provision of law, members and customers of local water agencies may transfer water with the approval of the governing board of the agency. Local agencies shall make available their water supply and distribution system to the extent necessary to implement transfers by their members and customers. Subject to the requirements of this section, the financial terms and operational conditions of such transfers shall be established by agreement of the local agency and the members or customers who participate in the transfer.
>
> A local agency may deny or place terms and conditions on water transfers proposed by their members and customers *only* in accordance with the following standards:
>
> a. The agency shall have authority to ensure that the transfer does not deprive members and customers of the agency who do not participate in the transfer of surface water, surface runoff, return flow, percolating water, or groundwater to which the nonparticipating members and customers would have been entitled under contract, agency regulation, bylaw, or other legal authority if the proposed transfer did not occur.
>
> b. The agency shall have authority to protect the groundwater resources over which it has jurisdiction or proprietary rights from exceedence of the long-term sustainable yield of the groundwater basin caused by the transfer or to which the transfer would contribute significantly.
>
> c. The agency shall have authority to protect the land, wetlands, surface water, groundwater, fish and wildlife, and other natural resources within its jurisdiction from pollution or degradation that would be caused by the transfer or to which the transfer would contribute significantly.
>
> d. The agency shall have authority to ensure that the transfer does not increase the cost of water or other service provided by the agency to its members and customers who do not participate in the transfer.
>
> e. The agency also may charge a reasonable fee for the administrative expenses and operation and maintenance costs incurred in the review, negotiation, or implementation of the transfer (including any additional power costs required to effectuate the transfer). The agency shall credit to the transferor any operation and maintenance cost savings (including any decrease in power costs) attributable to the transfer.

The draft also would have referred disputes between the agencies and their members or customers to binding arbitration and would have placed the burden of proving compliance with the foregoing criteria on the local water agency.

In contrast, the final version of this section as it appears in the Model Act states simply:

> Members and customers of local water agencies may transfer water with the approval of the governing board of the agency. The financial terms and operational conditions of such transfers shall be established by agreement of the local agency and the members or customers who participate in the transfer.

This significant change from the draft to the final version was made in deference to strong statements received from the two Central Valley focus groups. Participants in those meetings argued that

118. Farm and ranch surveys and other census data indicate that between 51 percent and 68 percent of all irrigated acreage in California receives water supplied by an institution, rather than from water rights owned by the individual irrigators. *See id.* at 637. Because these data include groundwater, the percentage of *surface* water supplied by local agencies is even greater.

most districts are now receptive to water transfers by their members and recommended that individual districts be given time to establish their own policies on this question. Several participants also stated that legislative intervention in this area would be counterproductive, because it could heighten concerns of those district board members who are opposed to or fear water transfers. We ultimately were persuaded by these arguments and therefore removed the criteria governing agency review of user initiated transfers from the Model Act. The section from the earlier draft would be available as an alternative solution to this problem, however, if the decentralized, agency-by-agency approach fails to allow members and customers of local agencies to initiate and to engage in individual water transfers.

As noted previously, the Central Valley Project Improvement Act of 1992 declares that up to twenty percent of the water delivered to CVP contractors may be transferred by the individual members of the contracting agencies, subject only to the approval of the Secretary of the Interior.[119] The future experience under this law will serve as a useful comparison with existing California law. If there are significant user initiated transfers within the CVP, and relatively little activity in non-CVP contracting agencies that maintain restrictive transfer rules, it may become necessary to amend California law to limit the authority of local agencies by the criteria set forth above.

The provisions of the Model Act that address the authority of local agencies over transfers proposed by their members and customers are set forth in Part H.

G. Reduction of Constraints on Wheeling

Barton Thompson has observed that

> [a]ccess to existing transportation systems can ... become an important constraint on water markets. ... [As] market activity increases, ... transportation access is likely to become a serious issue. Indeed, access issues have already begun to worry and influence some purchasers who fear that the owners or operators of transportation facilities will use their power over transfers either to control water markets or garner additional rents.[120]

As discussed earlier, San Diego's contentious negotiations with the Metropolitan Water District to wheel acquired water through MWD's system confirm this hypothesis.

The Model Act would modify the wheeling provisions of existing law in three important respects. First, although it would continue the current authorization of the use of up to seventy percent of the "unused capacity" of public water supply systems for wheeling,[121] the Act would require the calculation of "unused capacity" to be made at the time the wheeling request is filed. The Model Act also would define "unused capacity" as

> the portion of the public water supply agency's supply system, if any, not required by the agency during the term of the water transfer agreement to supply water obtained by the agency or its members and customers from water rights, contracts, or other entitlements that exist at the time the legal water user requests permission to use the agency's water supply system.

These changes would prohibit the agency from denying or limiting a wheeling request based on the agency's prediction that it *might* need currently available capacity in its system for its own uses, even though it does not presently have binding legal commitments to supply such uses. The new definition also would prevent the agency from making all wheeling agreements subordinate to its own future use of the system, unless the wheeling party agreed to such a subordination. Under this approach to "unused capacity," the agency would be protected to the extent that it has firm legal obligations to use presently available unused capacity in the future. In addition, agencies also would be protected by the seventy percent limitation on the mandated opening of unused capacity.

Second, the Model Act would clarify the criteria applicable to the agency's evaluation of requests to wheel water through its system. The agency would have authority to protect its own existing water supply obligations, water quality within its system, and its financial interests.

Third, the Model Act would alter the existing statutory definition of "fair reimbursement." The new definition would allow the agency to charge the wheeling party for the marginal costs of transporting water through its system. The Model Act would prevent the agency, however, from fixing rates for wheeling at the same rates charged to the agency's own members or customers, unless equal rates were justified by the marginal costs of the wheeling. The Act also would prohibit the agency from imposing "stranded investment" charges or otherwise obtaining a share of the consumer surplus generated by the water transfer that forms the basis of the wheeling arrangement.

119. Central Valley Project Improvement Act, Pub. L. No. 102-575, § 3405(a)(1), 106 Stat. 4706 (1992).

120. THOMPSON, *supra* note 70, at 17–18.

121. CAL. WATER CODE §§ 1811(e), 1814 (West 1996)

The wheeling provisions of the Model Act may be found in Part I.

V. Conclusion

The Water Transfer Act is the product of a comprehensive and exhaustive evaluation of California's water transfer laws in the light of sixteen years of experience with the modern transfer statutes. The transfers that have occurred during these years have firmly established the concept of voluntary allocation of the state's water resources in response to market-based incentives as one of the cornerstones of California's water policy. This "first generation" experience has generated an array of "second generation" issues, many of which are addressed in the Model Act. Although we have left a few such issues for future studies, we do so with the understanding that California's water transfer policies will continue to evolve in response to the state's ever changing hydrologic, economic, environmental, and social conditions. There will, in short, be opportunities for reconsideration of the water transfer laws—including the questions left unresolved by this report—in light of "third generation" policy issues and subsequent experiences.

The Model Water Transfer Act therefore should be viewed as a beginning point for the future debate over water transfers in California. Although water marketing is not a panacea, water transfers are now a vital component of California's water policy and will continue to grow in importance as the demands for water evolve and expand relative to supply. The challenge for all participants and interested observers is to devise better means of freeing the market, enhancing the security of water and contract rights, expediting the regulatory and review processes, ensuring the protection of third parties, and opening the channels of supply and distribution.

APPENDIX A: Summary of the Model Act

The balance of this report is a working outline and summary of the Model Water Transfer Act. It should be read in conjunction with the text of the Act, but not as a substitute for the Act itself. For the language of the Act reveals, far more clearly than can any summary, the policy choices and pragmatic decisions that form the basis of this comprehensive reconsideration of California's water transfer laws.

The Model Act is divided into twelve Parts, each of which covers a particular topic area. The Parts are:

- Part A Purposes and Policies
- Part B General Authority
- Part C Protection of Water Rights
- Part D General Standards and Procedures Governing Transfers of Water
- Part E Standards and Procedures for Expedited Transfers of Conserved Water
- Part F Transfers of Water to Instream Uses
- Part G Water Transfer Fees
- Part H Authority of Local Water Agencies
- Part I Wheeling
- Part J Water Banks
- Part K State Water Resources Control Board
- Part L Miscellaneous

This section of the report provides a summary of the twelve topic areas covered by the Model Act.

Part A: Purposes and Policies

Part A describes the purposes and policies of the Act.

Section 101 begins with the declaration that "the voluntary transfer of water is an essential feature of water resources management and planning" in California and that such transfers "improve the administration of California's existing water resources by increasing the flexibility of water supply and allocation, particularly during droughts and other water

shortages." It also states that water transfers are in the public interest and promote the purposes of Article X, Section 2 of the California Constitution.[122] Section 101 further declares that "the protection of water rights and contract rights to the use of water is in the public interest and is necessary to facilitate the voluntary transfer of water in California." These declarations largely reiterate existing law.[123]

In addition, section 101 contains several other declarations of policy that focus on some of the specific provisions of the Model Act. These include: a statement of the importance of protecting the rights and interests of third parties who may be adversely affected by otherwise beneficial transfers; recognition of the important role that local water agencies play in the water transfer process; and an emphasis of the need for other legal changes proposed in the Model Act, such as revision of the law governing the State Water Resources Control Board's review of water transfers within its statutory jurisdiction, authorization of expedited transfers of conserved and salvaged water, improvement of the processes for transferring water to instream uses, authorization of regional water banks, and clarification of the relationship between the water transfer laws and the California Environmental Quality Act.

Section 102 continues with a statement of the purposes of the Model Act. These purposes are listed in the sequence in which they appear in the Model Act, and Section 102 therefore provides a useful outline to the Act itself.

Finally, section 103 provides a working title for the Model Act—the "California Water Transfer Act."

Part B: General Authority

Part B is something of a potpourri. It contains nine discrete sections, each of which addresses subjects that apply to subsequent Parts of the Model Act. For example, section 201 delimits the coverage of the Act and defines the terms "water transfers" and "transfers of water" as they are used throughout the Act. Section 208 sets forth general rules governing the use of groundwater to replace surface water that is transferred. And, section 209 articulates several important changes to the California Environmental Quality Act. These rules would apply to *all* water transfers, not simply those regulated by the procedures and standards set forth in Parts D and E of the Model Act. Thus, an understanding of Part B is essential to an understanding of the Model Act as a whole.

As just noted, section 201 defines the coverage of the Model Act. It states that the Act applies to three types of transactions:

1. *Voluntary changes in surface water rights that do not involve a transfer of water from the existing water right holder to another user.* This category includes changes in water rights where the water right holder needs to alter the place of use or purpose of use set forth in its existing permit or license, for example, but does not wish to transfer water to another user.

2. *Voluntary changes in surface water rights that do involve a transfer of water from the existing water right holder to another user.* This category includes water transfers that may be accomplished only by an accompanying change in the transferor's permit or license. These types of transfers currently are governed by sections 1700 through 1705.5 of the Water Code.[124]

3. *Voluntary transfers of water that do not require a change in water rights.* This category includes transfers that may be accomplished without changing a water right. Transfers between members of an irrigation district that holds appropriative rights and transfers between State Water Project Contractors would be examples of this category.[125]

For simplicity, section 201 states that, as used throughout the Model Act, the terms "water transfers" and "transfers of water" include voluntary changes in surface water rights, voluntary transfers of surface water rights, and voluntary transfers of water.

It is important to emphasize, as does section 201, that the Model Act applies only to *voluntary* changes in water rights and *voluntary* transfers of water. Moreover, except for section 208, the Model Act applies only to changes in *surface* water rights and transfers of water based on surface water rights. As described in more detail below, section 208 addresses only the substitution of groundwater for transferred surface water. This subject is governed by existing statutory law.[126]

122. Article X, Section 2, of the California Constitution provides in relevant part:

> The right to water or to the use or flow of water in or from any natural stream or water course in this State is and shall be limited to such water as shall be reasonably required for the beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion of water. Riparian rights in a stream or water course attach to, but to no more than so much of the flow thereof as may be required or used consistently with this section, for the purposes for which such lands are, or may be made adaptable, in view of such reasonable and beneficial uses

CAL. CONST. art. X, § 2. For an analysis of Article X, Section 2, see Gray, *supra* note 38, at 253–72.

123. *See, e.g.*, CAL. WATER CODE §§ 109, 475 (West 1996)

124. For transfers that require a change in a pre-1914 appropriative right, see *id.* § 1706.

125. *See* Gray, *supra* note 26, at 779–80

126. CAL. WATER CODE §§ 1011.5, 1745.10, 1745.11 (West 1996)

Finally, the Model Act applies only to certain types of changes in surface water rights or transfers of water based on surface water rights. It does not apply at all to pueblo rights and governs changes in riparian rights only as provided in section 207. This section restates the existing statutory authorization of transfers of *quantified* riparian rights[127] and would codify the practice approved during the 1991 Water Bank of allowing riparians to forego the exercise of their water rights without formally transferring the water made available by such forbearance.[128] Moreover, as discussed above, the general water transfer procedures and standards of Part D and the expedited rules governing transfers of conserved water under Part E apply on a *mandatory* basis only to transfers of water that require a change in the term of a permit or license within the exiting statutory jurisdiction of the State Water Resources Control Board.

Section 202 is considerably more simple. It declares that surface water rights and surface water, as defined in section 201, may be transferred in accordance with the provisions of the Act.

Section 203 then defines in broad terms the types of legal arrangements that qualify as water transfer agreements. Legal agreements include "purchase and sales contracts, deeds, leases, exchange agreements, options, futures contracts, subordination agreements, gifts, agreements to forego the use of water, and other types of arrangements to transfer water that are mutually agreeable to the parties." A number of observers have recognized the importance of affording the parties to water transfers substantial freedom to define the structure of, and terms by which, they agree to transfer water.[129] This section would authorize such parties to enter into any type of contractual arrangement that they believe would best serve their interests, subject of course to compliance with the requirements of the Model Act and other applicable law.

Section 204 distinguishes between short-term and long-term transfers. It defines short-term transfers as "proposals or agreements the term of which is two years or less." Long-term transfers are "proposals or agreements the term of which is greater than two years." Long-term proposals and agreements include permanent changes in water rights and permanent transfers of water. To take into account the possibility that the parties to a water transfer might seek to avoid the requirements applicable to long-term transfers by stringing together a series of short-term transfer agreements, section 204 also provides:

> If a water right holder or water transferor enters into successive short-term agreements with the same party (or agents, representatives, subcontractors, assignees, or beneficiaries of the same party), and such successive agreements have commencement dates within two years of each other and result in the transfer of water for a term in excess of three years, the agreements shall be regarded as a long-term agreement and the provisions of this Act governing long-term agreements shall apply to the second agreement and any successive agreements.

The definition of short-term and long-term transfers by reference to the term of the proposal or agreement is significant, because this section would define as long-term any arrangement by which water is regularly transferred throughout the term of an agreement greater than two years in length *and* any arrangement for the sporadic, limited time transfer of water over the course of an agreement of longer than two years duration. Thus, a ten-year "dry year option" agreement – pursuant to which the transferee has the right to receive water from the transferor during dry and critical water years–would be regarded as a long-term agreement, even though water may be physically transferred only for two or three months at any given time during the term the agreement.

The distinction between short-term and long-term transfers is an acknowledgment that certain legal restrictions should not apply to transfers of limited duration because the harm that might occur to third party interests from short-term transfers would be temporary and therefore reparable. In contrast, third-parties could be irremediably injured by long-term transfers unless their interests are considered at the outset before water is transferred on a long-term or permanent basis.

The Model Act distinguishes between short-term and long-term transfers in five places:

1. Section 209 categorically exempts short-term water transfer proposals and agreements from the environmental review requirements of the California Environmental Quality Act. This exemption is based on existing law.[130]

2. Section 403(g) provides that the State Water Resources Control Board may con-

127. *Id.* § 1740.

128. *See* Gray, *supra* note 36, at 29–31.

129. *See, e.g.*, Steven J. Shupe, Gary D. Weatherford & Elizabeth Checchio, *Western Water Rights: The Era of Reallocation*, 29 NAT. RES. J. 413, 419–22 (1989).

130. CAL. WATER CODE § 1729 (West 1996).

sider short-term transfer petitions within its jurisdiction without conducting a live hearing, which is mandatory in the case of long-term transfers.

3. Sections 404(a) and 404(b) assign to the transferor the burden of proving that the transfer of water pursuant to a long-term transfer agreement would not "result in significant injury to any legal user of water" or "unreasonably affect fish, wildlife, or other instream beneficial uses." In contrast, for short-term transfer agreements, the transferor would simply have the burden of producing *prima facie* evidence of compliance with these protections for third parties. Once the transferor produced such evidence, the burden of proof would shift to persons opposed to the transfer to prove that the short-term transfer would cause significant harm to other legal water users or would unreasonably affect fish, wildlife, or other instream beneficial uses.

4. Section 404(c) applies an additional substantive criterion to long-term agreements to transfer water that are based on the fallowing or retirement of previously irrigated land. In these cases, the State Water Resources Control Board would have to find that the long-term transfer would also not "cause substantial harm to the economy in the area from which the water is to be transferred."

5. Section 507 provides that long-term transfers of water made available by land-fallowing or retirement are not eligible for the expedited transfer provisions of Part E.

Only the first of these provisions—the exemption from CEQA—would apply to all types of water transfers. The second, third and fourth are relevant only to transfers that are subject to the jurisdiction of the State Water Resources Control Board according to the provisions of Part D, and the fifth applies only to expedited transfers of conserved water pursuant to Part E.

Section 204 changes existing law, which uses one year as the dividing point between short-term and long-term transfers.[131] There was a broad consensus among the participants in the focus groups that the present definition of short-term transfers as one year or less is overly restrictive, because it leaves too little time to implement short-term transfer arrangements.

Section 205 simply codifies the well established legal requirement that, during the term of all water transfers, the parties must comply with other applicable state and federal laws. These laws include: Article X, Section 2 of the California Constitution; sections 1410–1418 of the California Civil Code, which govern pre-1914 appropriative rights acquired pursuant to the Civil Code of 1872; other provisions of the Water Code; the terms and conditions of the transferor's and transferee's water rights permits or licenses; and other judicial and administrative decisions respecting water rights, water quality, and other beneficial uses.

Section 206 addresses transfers of water within or through the Sacramento-San Joaquin Delta. It has been the practice of the State Water Resources Control Board to require such transfers to meet two requirements. First, the transferor must contribute water for salinity repulsion and other water quality requirements as determined by the Board. Second, the transfer must include a "carriage water" component that represents the water "lost" to the system when water is moved across the Delta Indeed, this practice has now been codified as a section of the Water Code applicable to "water leases."[132]

A number of participants in the focus groups objected to the Board's assertion of authority to take a portion of water transferred through the Delta for salinity control and other water quality requirements in addition to those set forth in the Water Quality Control Plan for the Bay-Delta. Other participants challenged the carriage water requirements, questioning whether any water was lost during transport through the Delta.

The Model Act responds to these issues in two ways. The first paragraph of section 206 states simply that no transfer of water within or through the Delta "shall cause a violation of the water quality standards (including flow requirements and temperature standards) applicable to the Delta as established under state and federal law." This approach is consistent with the general environmental limitation on water transfers that they not alter the *status quo* in a way that causes a violation of water quality standards or creates injury to fish, wildlife, and other instream beneficial uses. To answer the concern that, at least for some transfers, no carriage water is needed to move water through the Delta, the second and third paragraphs of section 206 would require the Board to address this question by rulemaking. If the Board determines that carriage water is required, it would have to include in the regulations "a table that states the additional amount of carriage water that must accompany each transfer of water within or through the Delta for various hydrologic conditions and types of transfers."

131. *Id.* §§ 1728, 1735.

132. *Id.* § 1027.

Section 207, as noted previously, is the only provision of the Model Act that addresses riparian rights. It does so in two ways. First, section 207 authorizes the transfer of riparian rights that have been quantified in a statutory adjudication to be transferred as though they are appropriative rights. This is a restatement of current Water Code section 1740.

Second, section 207 allows riparians voluntarily to forego the exercise of their riparian rights for the benefit of another party. In such cases, there is no *transfer* of water. As a legal matter, the water returns to the river system where it may be claimed by other riparians or appropriated by other lawful water users. As a practical matter, however, the water may be used by the "purchasing party" to meet its own water quality and instream flow obligations. This in turn may make other water owned or controlled by the "purchasing party" available for other consumptive uses. In 1991, the Department of Water Resources entered into forbearance arrangements with riparians along the lower Sacramento River and in the Delta. The Department used the "acquired" water to meet its Delta water quality requirements, which freed other water in its system for distribution to its own contractors and to customers of the Water Bank.[133] This was an important and effective strategy. Accordingly, section 207 also preserves the authority of riparians to enter into similar agreements to forego the exercise of their riparian rights.

Section 208 defines the circumstances under which a transferor of surface water may initiate or increase its use of groundwater to replace surface water that it transfers out-of-basin. A transferor of surface water generally may replace the transferred surface water with groundwater if three conditions are satisfied. First, the transferor must have legal authority to use groundwater and may not exceed his or her groundwater rights under state and local law. Second, the transferor's use of groundwater must be consistent with all valid laws that govern the extraction, appropriation, and use of groundwater, including groundwater management statutes, local groundwater management plans adopted pursuant to sections 10750 through 10755.4 of the Water Code, city or county ordinances, judicial decisions and decrees, and the provisions of CEQA. Third, the transferor's use of groundwater may not cause the long-term operating safe yield of the groundwater basin to be exceeded.[134]

Special provisions govern groundwater substitution to replace surface water exported from "basins subject to critical conditions of overdraft" as defined in the Department of Water Resources' Bulletin 118 Series. Section 208 prohibits the substitution of groundwater in these circumstances, unless the groundwater previously was "stored for the purpose of subsequent extraction for surface water replacement or direct transfer as part of a groundwater banking program carried out by direct recharge, delivery of surface water *in lieu* of groundwater pumping, or by other means." The groundwater basins that currently would be covered by this restriction are: the Santa Cruz-Pajaro basin; the Cuyama Valley basin; the Ventura County basin; the Eastern San Joaquin County basin; and the Chowchilla, Madera, Kings, Kaweah, Tulare Lake, Tule, and Kern County basins.[135] The list of groundwater basins protected by this export prohibition would change as DWR updates the Bulletin 118 Series.

Finally, section 209 concludes Part B with a clarification of the applicability of the environmental review requirements of the California Environmental Quality Act to water transfers. It states that CEQA shall not apply to short-term transfer agreements. This exemption is based on current law.[136]

Part C. Protection of Water Rights

Part C is comprised of four sections that expand on the existing legal protections for water rights in the context of water transfers. As noted previously, the Water Code presently authorizes transfers of conserved and surplus water and declares that the transfer of water shall be deemed a beneficial use by the transferor.[137] The purpose of these laws is to create incentives to water right holders and other water users to conserve and transfer water and to provide assurances to potential transferees that the water they may acquire will be secure throughout the term of the transfer agreement.[138] Despite these protections, many of the participants in the focus groups expressed the concern that existing law does not adequately protect the rights of the parties to water transfer agreements and that legal changes are needed to create the security of property rights required in any market-based allocational system. The provisions of Part C are a response to these concerns. Because ques-

133. For a description and analysis of this aspect of the 1991 Water Bank, including an explanation of how DWR calculated the quantity of water returned to the river by virtue of the riparians' forbearance of use, see Gray, *supra* note 36, at 29–31.

134. The Model Act also states that local groundwater management plans and ordinances may not prohibit the use of groundwater to replace transferred surface water except as necessary to ensure that the long-term operating safe yield of the aquifer is not exceeded as a result of the conjunctive use arrangement.

135. CAL. DEP'T OF WATER RESOURCES, *supra* note 111, at 4.

136. CAL. WATER CODE § 1729 (West 1996).

137. *Id.* §§ 1011(b), 1244, 1745.07.

138. *See* Gray, *supra* note 38, at 275–77.

tions about water rights arise in virtually every type of water transfer, the protections set forth in Part C would apply to all water transfers, not simply to those governed by Parts D and E of the Model Act.

Section 301 protects the water rights of the transferor. It states that the transferor's "offer of water for transfer, the transfer negotiations, and the agreement to transfer water shall not be used as evidence of the transferor's waste or unreasonable use, or cessation of use, of the water made available for transfer." Section 301 also provides that the transfer of water or water rights shall not "cause, or be the basis of, a forfeiture or abandonment of any water rights, contract rights, or other right to use water." These declarations are based on existing sections 1011(b), 1024, 1244 and 1745.07 of the Water Code.

Section 302 continues these protections during the term of the agreement to transfer water. It provides that, throughout the term of all water transfer agreements, compliance with Article X, Section 2 of the California Constitution and other laws governing waste and unreasonable use "shall be determined based on an assessment of the reasonableness of the *transferee's* use of the transferred water." The purpose of section 302 is to assure both parties to the transfer that the transferor's alleged prior waste, unreasonable use, or non-use will not be a basis for reduction or divestment of the rights to the transferred water during the term of the transfer agreement. As described *supra* Part I, this section would codify the practice employed by the State Water Resources Control Board with respect to the Imperial Irrigation District's transfer of conserved water to the Metropolitan Water District.

Section 303 follows by clarifying the rights of transferors at the conclusion of the term of water transfer agreements. Participants in all of the focus groups stated that the current laws do not adequately protect the rights of transferors at this stage of the transfer process, and consequently some users are deterred from transferring water because they fear that they will not regain the rights to such water at the end of the transfer agreement. Section 303 addresses these concerns by declaring that "at the conclusion of the term of a water transfer agreement, all rights in, and to the use of, the water subject to the transfer agreement shall revert back to the transferor." For additional emphasis, it then stipulates that "neither the transferee [nor] any beneficiary of the transfer claim any right to a continued supply of water based on reliance, estoppel, intervening public use, water shortage emergency, unforeseen or unforeseeable increases in demand, or any other cause." Section 303 provides the strongest possible legal protections for transferors at the conclusion of the term of water transfers.

Finally, section 304 states that the "conservation, salvage, or other reduction in the use of water for the purpose of transferring the amount so conserved, salvaged, or reduced shall be deemed a reasonable and beneficial use of water." This language is simply a restatement of existing law.[139]

Part D: General Standards and Procedures Governing the Transfer of Water

Part D articulates the general rules applicable to water transfers governed by the Model Act.

Section 401 states that, with the exception of expedited transfers of conserved water governed by Part E, all transfers of water must comply with the requirements of Part D. This broad statement of coverage is limited, however, by the terms of section 402, which make clear that the central provisions of Part D—the transfer procedures of section 403 and the transfer standards of section 404—apply on a *mandatory* basis only to transfers that necessitate a change in the term of a permit or license subject to the current statutory jurisdiction of the State Water Resources Control Board.

Section 402 thus defines the scope of the Board's jurisdiction under Part D. It states that the Board shall review all petitions to transfer water appropriated under permit or license and petitions to transfer quantified riparian rights "where the transfer requires an alteration of the purpose of use, place of use, point of diversion, point of return flow, or any other term or condition of the water right as set forth in the applicable permit, license, or decree." This does not expand the Board's mandatory jurisdiction as defined in the existing water transfer laws.[140] Indeed, to emphasize this point, section 402 also stipulates that the Board "shall not have jurisdiction over any other transfers of water unless the water right holder requests the Board to exercise jurisdiction pursuant to sections 403 and 404."

Section 403 sets forth the procedures that would govern the Board's review of petitions to transfer water. Petitions may be filed by the water right holder and, with the water right holder's permission, by a contractor or user supplied directly or indirectly by the water right holder. The balance of section 403 defines the process by which transfer petitions are reviewed by the Board. These procedures are a consolidation and improvement of the existing transfer review procedures.[141] Important

139. CAL. WATER CODE § 1011 (West 1996).

140. *Id.* §§ 1701, 1725, 1735.

141. *See id.* §§ 1700–1705.5, 1725–1732, 1735–1737.

changes from the current law include: imposition of specific time limits on the Board's exercise of its investigation, review, and decisionmaking responsibilities; and exemption of short-term transfer petitions from the hearing requirements of current law. Section 403 also provides for judicial review of the Board's decision to grant or to deny transfer petitions. A court could overturn a decision by the Board only for procedural errors, for statutory or constitutional violations, or if the court found that the decision was not supported by substantial evidence. A court would have no authority to award damages or any other type of monetary relief.

Section 404 follows with an articulation of the substantive standards that would govern the Board's decision on water transfer petitions. As described earlier, this section was the result of comments received from participants in the focus groups that the Model Act should create a hierarchy of types of transfers that would encourage transfers that are likely not to result in significant injuries to third parties, while subjecting transfers that have greater potential for third party harm to greater scrutiny. To accomplish this salutary goal, section 404 delineates three categories of transfers and would require the Board to apply different legal standards in its review of transfer petitions for each of these categories.

Section 404(a) applies to short-term transfers—i.e., proposals and agreements the term of which is two years or less. It states that the Board shall approve a short-term transfer petition "unless it concludes that the proposed transfer: (1) would result in significant injury to any legal user of water; or (2) would unreasonably affect fish, wildlife, or other instream beneficial uses." The petitioner would have the burden of producing *prima facie* evidence that the proposed transfer would comply with these two requirements. The establishment of a *prima facie* case then would shift the burden of proof to the parties that have filed protests in accordance with the requirements of section 403. The protestants would have to prove that the proposed transfer would *not* comply with the standards of this subsection.

Section 404(b) addresses long-term transfers—i.e., proposals and agreements the term of which is longer than two years. It provides that the Board shall not approve a long-term transfer petition unless it concludes that the proposed transfer: (1) would not result in significant injury to any legal user of water; and (2) would not unreasonably affect fish, wildlife, or other instream beneficial uses. For long-term transfers, the burden of proof would remain on the petitioner throughout the proceedings.

Section 404(c) creates an additional substantive requirement for long-term transfers based on the fallowing or retirement of previously irrigated land that would change the place of use or transfer the water to uses outside the county or counties in which the water previously has been used. In addition to the standards of section 404(b), the Board could not approve a petition for this type of transfer if it concluded that "the proposed transfer would cause substantial harm to the economy in the area from which the water is to be transferred." In making this determination, the Board would be required to "consider any actions that the petitioner or other parties to the transfer agreement have taken to mitigate harm to the economy in the area from which the water is to be transferred." Section 404(c) assigns the burden of proof to the petitioner. The substantive protection for local economies would not apply to long-term water transfers based on the fallowing or retirement of irrigated land within the San Joaquin Valley Drainage Program study area that the Board concludes "would contribute to the reduction of agricultural drainage that causes injury to land and natural resources or adversely affects surface water or groundwater quality." This exemption was included specifically to facilitate the retirement of land within the drainage problem area of the western San Joaquin Valley.[142]

To the extent that a transfer petition includes water that would be consumed by the transferor in the absence of the proposed transfer, section 404(d) would allow the Board to use the quantification processes of Part E to calculate the amount of such water available for transfer. The Board would apply a rebuttable presumption that the transfer of this water would not result in significant injury to any legal user of water or unreasonably affect fish, wildlife, or other instream beneficial uses.

Section 404(e) states that, if the Board "determines that both the release of water for transfer and the diversion or rediversion of the transferred water would comply with the terms and conditions of existing permits and licenses that protect other legal water users, fish, wildlife, and other instream beneficial uses affected by the appropriation and use of the water that is the subject of the petition," then the Board shall conclude that the proposed transfer would comply with the requirements of sections 404(a) and 404(b). Section 404(f) complements this provision by directing the Board only to consider the effects of the proposed transfer on the third party interests protected by section 404. The Board may not deny, or place conditions on its approval of, a water transfer in order to mitigate

142. *See* SAN JOAQUIN VALLEY DRAINAGE PROGRAM, A MANAGEMENT PLAN FOR AGRICULTURAL SUBSURFACE DRAINAGE AND RELATED PROBLEMS ON THE WESTSIDE OF THE SAN JOAQUIN VALLEY (1990).

adverse effects on fish, wildlife, or other instream beneficial uses, or to mitigate harm to the economy in the area from which the water is to be transferred, that would be caused by factors other than the proposed water transfer. The purpose of these sections is to ensure that the Board does not impose on the parties to water transfers the burden of correcting environmental or economic problems caused by factors beyond the parties' control.

Section 404(g) declares that, in all cases, the petitioner has the burden of proving that it has valid water rights to the water included in the transfer petition. The burden of proof on all of the substantive standards set out in section 404 would be by a preponderance of the evidence.

Section 405 establishes brief notice requirements for water transfers that are not subject to the Board's jurisdiction under sections 403 and 404. Thus, it would apply to transfers of pre-1914 appropriative rights that involve a change in the purpose of use, place of use, point of diversion, or point of return flow from that of the existing use. In such cases, section 405 simply would require the water right holder to provide notice and a brief explanation of the changes to the Board, the Department of Fish and Game, and the Supervisors of the county or counties from which the water is to be transferred. Section 405 would not authorize the Board to review or otherwise have jurisdiction over these transfers.

Section 406 provides a segue to Part E by allowing the petitioner to use the expedited procedures for transfers of conserved water for any portion of the petition that qualifies under Part E.

Part E: Standards and Procedures for Expedited Transfers of Conserved Water

As described above, one of the central features of the Model Act is the creation of an expedited process for transfers of water conserved or salvaged by the transferor. This expedited process would improve California's water transfer laws, because it would allow transfers of conserved and salvaged water to occur relatively quickly, without substantive review by the State Water Resources Control Board, but subject to *categoncal* protections for third party interests. The standards and procedures that would govern expedited transfers are set forth in Part E.

Section 501 defines "conserved water" that may be transferred on an expedited basis as "water that: (1) the transferor is legally entitled to use during the term of the transfer agreement pursuant to existing water rights, contracts, or other legal authority; and (2) the transferor has used within the five years immediately preceding the transfer agreement." This definition is designed to ensure that the transferor has rights to and would have used the water proposed for transfer if the transfer did not occur—i.e., that transfers under Part E are limited to transfers of "wet water." The requirement that the transferor have used the water within five years is based on the five-year period for forfeiture of appropriative rights for non-use.[143] Section 501 also gives examples of conserved water, including: water that the transferor conserves through salvage of water irretrievably lost to all consumptive uses during storage, transportation, or distribution; increased efficiency of irrigation or other use; changes in the acreage or type of crop irrigated; land fallowing or retirement; changes in operations; reduction in demand within the transferor's place of use or service area; substitution of reclaimed or recycled water; pricing changes; and other conservation measures.

Section 502 then defines the quantity of conserved water that may be transferred under the expedited procedures. It provides:

> Transfers of conserved water shall not exceed, for any water accounting year during the term of the transfer, the lesser of: (1) the amount of water that is legally and physically available to the transferor during the water year; or (2) the average annual quantity of water consumed by the transferor, or irretrievably lost to all consumptive uses, during the ten water years immediately preceding the transfer.

The purpose of this section is to create the categorical protection for third party interests described above. By limiting the quantity of transferable water to the lesser of the amount physically available to the transferor or the average consumptive use plus irretrievable losses, section 502 ensures that additional water within the transferor's appropriative rights on which third parties may rely will remain available to them after the consumptive use and irretrievable loss component is transferred. Thus, the definition of transferable quantities contained in section 502 protects other legal water users who use the transferor's surface runoff or appropriate the transferor's return flow, groundwater users who have rights to the percolating waters produced by the transferor's existing irrigation practices, and wetlands and instream uses of the surface runoff and return flow from the transferor s current practices.

143. CAL. WATER CODE § 1241 (West 1996).

Section 503 establishes the process by which the conserved water available for transfer is quantified. Different quantification methods apply depending on the source of the conserved water:

1. For transfers of water previously used by the transferor for irrigation, and conserved by crop substitution or land fallowing, the transferable quantity would be determined by reference to a "Water Consumption Table for California Agriculture." This Table would be promulgated by the Board and would contain a calculation of the water consumed in the irrigation of each crop grown in California. The Table would contain separate water consumption data per crop for each hydrologic region of the state.

2. For transfers of water previously used by the transferor for any other purpose, and conserved by changes in the efficiency of use, salvage of water irretrievably lost to all other consumptive uses, use of reclaimed or recycled water, pricing changes, reduction in demand, or other methods of conservation, the transferable quantity would be determined by the actual water consumption data.

The purpose of using generic tables for the first category of transfers, rather than real water consumption data, is to expedite the transfer process by relieving both the parties to the transfer and the Board of the difficult and expensive task of calculating the transferor's *actual* historic water consumption during the years preceding the transfer. Because of the multiplicity of ways of conserving water through changes in the efficiency of use, and the consequent impossibility of formulating generic water conservation tables, transfers in the second category would have to be calculated on the basis of actual water savings.

Section 504 sets forth the expedited procedures applicable to transfers of conserved water pursuant to Part E. The transferor would be required to submit to the State Water Resources Control Board its calculation of the amount of conserved water that it proposes to transfer and to provide notice of the proposal to the Department of Fish and Game and to the Supervisors of the county or counties from which the water will be transferred. The Board would not have authority to review the proposal as it would transfer petitions filed under Part D. Rather, the Board simply would review the transferor's calculation of the quantity of conserved water available for transfer to ensure that the quantification complied with the requirements of sections 502 and 503. If the Board approved the calculations, it would issue a "Certificate of Transfer" to the transferor. This document would provide full legal authorization for the transfer, and the transfer would not otherwise be subject to review by the Board or by the courts. If the Board rejected the transferor's calculations, the transferor either could accept the Board's alternative quantification or could petition for judicial review. The courts would review the Board's decision under the substantial evidence standard, but would have no authority to award damages or other monetary relief.

At the suggestion of the State Water Resources Control Board, section 504 also contains a disclaimer that the Board's issuance of a Certificate of Transfer does not constitute "a determination or quantification of the water rights of the transferor or of the rights to use water by the transferor or any other person, except for the purpose of authorizing the transfer of conserved water pursuant to this section."

The remaining sections of Part E provide backup protections for third parties in the event that the categorical protections described above fail in individual cases. These backup protections are essential, because third parties would not have the right to protest or to seek judicial review of expedited transfers before they occur. Thus, if the categorical protections were to fail, injured third parties must have some means of obtaining compensation. The security requirements of section 505 and the compensation system of section 506 are designed to achieve this purpose. They would apply exclusively to expedited transfers undertaken pursuant to Part E.

Section 505 would require every person or entity that acquires transferred water under Part E to post security in the amount of $5.00 per acre-foot of transferred water. The security could be in the form of a cash deposit, money order, certified check, or bond payable to the State Water Resources Control Board. Transfers between users located in the same local water agency and Delta carriage water provided under section 206 of the Model Act would be exempt from the security requirements. The security would guarantee the parties' performance of the transfer without injury to the rights of third parties. If the transfer caused injury to certain third parties, they would have the right to seek compensation from the proceeds of the security deposited with the Board in accordance with the standards of section 506.

Section 506 creates the compensation system for claims on the security interests posted under section 505. Eligible claimants are limited to:

(1) the Department of Fish and Game, which may seek compensation on behalf of the public for "reduction in water quantity or flows and diminution in water quality caused by the transfer that adversely affects fish and wildlife, recreation, other instream uses, aquatic and riparian habitat, or wetlands;"

(2) the county or counties from which water is transferred, which may seek compensation for loss of tax revenues and increased social services costs caused by the transfer; and

(3) other legal water users, who may seek compensation for "reduction in the supply of water that the claimant is legally entitled to use, diminution in water quality that adversely affects the claimant's water use, and increased pumping costs caused by the transfer."

Claims for compensation would be subject to binding arbitration. To prevail on the merits, the claimant would have to prove that the injuries were caused by the expedited transfer and not by other factors such as

> drought or other water shortages; changes in the operation of water facilities not controlled by the parties to the transfer; changes in river flows, groundwater extraction, or groundwater recharge not related to the transfer; changes in commodities prices, cost of goods and services, or labor costs; changes in the general economic conditions of the region; and other hydrologic and economic conditions not related to the transfer.

The arbitrator would be appointed by the State Water Resources Control Board and would have authority to award monetary damages up to the amount of the security posted under section 505.

Section 507 completes Part E. It addresses concerns raised in the focus groups by representatives of rural communities and small farmers that it would be inappropriate to allow expedited transfers of water in situations that could cause significant economic harm to the area from which the water would be transferred. Thus, section 507 provides that the expedited procedures of Part E do not apply to long-term agreements to transfer conserved water that (1) would obtain water for transfer by fallowing or retirement of land previously used for agricultural purposes and (2) would transfer the water to uses outside the county or counties in which the water was used before the transfer occurred. To allow opponents of these types of transfers to express their objections, section 507 mandates that they be subject to review by the Board in accordance with the provisions of Part D.

Part F· Transfers of Water to Instream Uses

The Water Code presently allows existing water right holders to dedicate all or a portion of their rights to instream uses.[144] The three sections that comprise Part F incorporate this statute and address an important question left unanswered by the existing law.

Section 601 simply restates the current law and authorizes water right holders and other legal users of water to transfer their water to instream uses. These transfers would be governed by the general transfer rules of Part D or, in appropriate cases, by the expedited transfer provisions of Part E.

As discussed above, environmentalists and other proponents of instream water rights have questioned whether the State Water Resources Control Board and other agencies with jurisdiction over water quality and instream flow protection could claim water dedicated to instream water rights as part of the water needed to comply with the regulatory standards. They have worried that these agencies might reduce the quantity of water or flows required to meet the regulatory standards by an amount equal to the quantity or flows dedicated to instream uses in the form of instream water rights. This absorption of the instream water rights would effectively defeat the purpose of the instream dedication.[145]

Section 602 addresses this concern by declaring that water transferred to instream uses shall be in addition to water devoted to instream uses pursuant to federal, state, or local regulatory requirements. This would prevent the Board and other agencies from including in their calculation of the amount of water or flows needed to meet water quality standards or minimum stream flow requirements any water dedicated or transferred to instream uses and held in the form of an instream water right. Section 602 therefore would ensure that water that is transferred to instream uses under section 601 would augment any water devoted to water quality or instream flow standards through the regulatory system.

Section 603 was added at the suggestion of several participants in the focus groups. It provides that, if the transferor chooses to use the water dedicated to instream uses for the purpose of satisfying its obligations under such regulatory standards, the dedicated water shall be credited toward the transferor's regulatory duties.

144. *Id.* § 1707.

145. *See* Thomas, *supra* note 68, at 49.

Part G: Water Transfer Fees

Participants in several of the focus groups questioned whether the State Water Resources Control Board would have adequate resources to discharge the responsibilities assigned to it by Parts D and E of the Model Act. They suggested that a nominal water transfer fee be established to provide funding to support the Board's review of water transfers that fall within its statutory jurisdiction. This idea received broad support among the other focus groups. Part G was drafted in response to this recommendation.

Section 701 requires every person or entity that acquires water transferred pursuant to Parts D and E to pay a water transfer fee. For transfers governed by Part D, this fee applies only to those over which the Board exercises jurisdiction pursuant to sections 403 and 404. Thus, it does not apply to transfers of water appropriated pursuant to pre-1914 rights or to transfers of water appropriated under permit or license that do not require an amendment of the permit or license and that are not submitted to the Board for review. Transfers to instream uses under Part F also are exempt from the transfer fee. Moreover, the fee does not apply to carriage water required for through-Delta transfers as set forth in section 206.

Section 702 directs the Board to promulgate a "Water Transfer Fee Schedule" by regulation. In recognition of the likely economies of scale associated with the cost of the Board's review of larger transfers, the amount of the transfer fee declines as the quantity of water proposed for transfer increases. The fees for expedited transfers undertaken pursuant to Part E are less that the fees for transfers governed by Part D, because the expenses incurred by the Board in checking the transferor's quantification of conserved water available for transfer under Part E likely would be substantially less than the costs of review under Part D. Section 702 directs the Board to set the fees at levels that are adequate, but no greater than necessary, to pay for the costs of administration of Parts D and E. It also establishes a schedule of maximum fees that the Board could not exceed.

Section 703 authorizes the Board to use the proceeds of the water transfer fees to implement the requirements of Parts D and E. This section also permits the Board to use any residual proceeds to support its other administrative responsibilities.

Section 704 is designed to ensure that the water transfer fees would be a permanent source of funding to pay for the Board's administration of the water transfer laws. Thus, it prohibits the state from including the proceeds of the fees as part of the general state budget and from using the fees to meet general state obligations.

Part H: Authority of Local Water Agencies

Part H addresses four related topics: (1) the authority of local water agencies to transfer water; (2) the authority of members and customers of local agencies to transfer water; (3) the authority of local water agencies to receive transferred water; and (4) the authority of members and customers of local agencies to receive transferred water. As discussed in detail above, Part H reflects a variety of significant changes from earlier drafts based on comments received from the focus groups.

Section 801 provides general authority to local water agencies to transfer water to purchasers located outside the agency's existing service area. Subsection 801(a) would allow the agency to transfer water to which the agency has water rights or contract rights that is in excess of the reasonable and beneficial demands of its members and customers and water that is made available for transfer by conservation measures undertaken or funded by the agency. Subsection 801(b) would permit local agencies to transfer water for the benefit of individual members or customers who ask the agency to transfer the water on their behalf. These provisions are reiterative of existing law.[146]

There are two important limitations on agency authority to transfer water. First, subsection 801(a) provides:

> Without the consent of the member or customer, the agency shall not declare as "excess" water that a member or customer of the agency has authority to use, or to transfer pursuant to section 802, during the term of the transfer proposed by the agency, if the member or customer has applied the same quantity of water to a beneficial use, or has transferred the same quantity of water pursuant to the provisions of section 802, at least once during the preceding five years.

The purpose of this *caveat* is to prevent local agencies from claiming water to which a member or customer has an individual entitlement and which the member or customer seeks to transfer to a purchaser located within or outside the agency. Second, subsection 801(c) stipulates that local agencies may not transfer or claim water to which an individual member or customer holds water rights or contract rights with a party other than the agency. The purpose of this restriction is to protect the rights of members or customers to water that is not supplied by the agency and over which the agency should not exercise decisionmaking authority.

146. *See* CAL. WATER CODE §§ 382, 1022, 1745–1745.11 (West 1996).

Section 802 provides simply that members and customers of local water agencies may transfer water with the approval of the agency and that the financial terms and operational conditions of such transfers shall be established by agreement between the agency and the participating members or customers. As described above, this section recognizes the authority that local agencies possess under existing law to decide how water that they control and distribute to their members and customers may be used.

Section 803 complements section 801 by authorizing local water agencies to acquire transferred water for distribution to their members and customers, on behalf of their members and customers, and for other reasonable and beneficial uses. This section would not change existing law.

Section 804 is the counterpart to section 802. It authorizes members and customers of a local water agencies to acquire transferred water from sources other than the agency. If the transfer would not require use of the agency's water supply system, the agency would have no authority over the transfer. If the transfer would require use of the agency's system, the terms of the transfer would be subject to the rules governing "wheeling" set forth in Part I.

Section 805 defines the term "local water agency" for purposes of Part H. Local water agencies include all public and private entities that provide water service in California. The provisions of Part H are not applicable, however, to the United States Bureau of Reclamation, the Army Corps of Engineers, or the California Department of Water Resources.

Part I: Wheeling

Part I addresses the topic of "wheeling"—the use of water supply facilities by someone other than the owner or operator to transport water. The wheeling rules apply both to the use of water supply systems by members and customers of the agency that owns the system and to the use of water supply systems by nonmembers. Part I is based on the wheeling provisions of existing law.[147]

Section 901(a) authorizes any legal water user who transfers water or who receives transferred water to use up to seventy percent of the "unused capacity" of water supply systems owned or operated by public water supply agencies to transport the water. The seventy percent limitation is taken from current law and is designed to provide public agencies with a "buffer" to ensure that they retain sufficient capacity to meet their own future water transportation needs during the term of wheeling arrangements under Part I.[148]

Section 901(a) also states that the legal water user shall have the right to wheel water through the agency's water supply system throughout the term of the water transfer agreement. This is an important clarification of existing law, which does not address whether the agency may preempt its wheeling agreements if the agency decides to make its own use of the portion of the "unused capacity" through which the water is wheeled. Section 901(a) makes clear that, once a wheeling commitment is made, the agency is obligated to honor that commitment throughout the term of the wheeling agreement. The parties would be free, of course, to enter into an interruptible wheeling arrangement by mutual consent.

Section 901(b) defines several terms that are relevant to the administration of Part I. "Water supply system" includes all of the public water supply agency's diversion, storage, transportation, treatment, distribution, and related facilities required to accomplish the transfer of water by the legal water user. The term "unused capacity" is defined as:

> the portion of the public water supply agency s supply system, if any, not required by the agency during the term of the water transfer agreement to supply water obtained by the agency or its members and customers from water rights, contracts, or other entitlements that exist at the time the legal water user requests permission to use the agency's water supply system.

This definition clarifies the current legal definition of "unused capacity"[149] by stipulating that the existence and amount of unused capacity must be determined as of the date on which the legal water user requests permission to wheel water through the agency s facilities, taking into account the agency's then existing water supply obligations. Many of the participants in the focus groups agreed that this would be a valuable clarification of the present definition of "unused capacity," which does not specify that the determination of capacity available for wheeling made at the outset of the wheeling agreement shall be binding on the agency throughout the term of the agreement.

Section 901(b) also defines which "public water supply agencies" are subject to the wheeling rules of Part I. In contrast to the definition of "local water supply agency" as used in Part H, the definition of public water supply agencies for purposes of Part I includes the United States Bureau of Reclamation and the California Department of Water Resources, but excludes privately owned water suppliers.

147. *Id.* §§ 1810–1814.

148. *See id.* § 1814.

149. *See id.* § 1811(e)

Section 902 establishes procedures for the agency's review of wheeling requests. All such requests must be made in writing and must include a description of the water transfer that is the subject of the request, a statement of the quantity of water involved, the dates on which the requested wheeling would occur, and identification of the portion of the agency's water supply system to which the request applies. The agency would have thirty days to determine the amount of unused capacity available to serve the wheeling request and to notify the requesting party of its decision. If the agency granted the request, the notice would include a statement of the terms and conditions of the wheeling arrangement.

Section 903 sets forth the substantive standards applicable to wheeling agreements. The agency could impose reasonable terms and conditions to protect the water quality of its system, to ensure that it receives "fair reimbursement" for the use of its system, and to protect other defined legal interests.

Subsection 903(a) authorizes the agency to to deny, or to place conditions on, wheeling in accordance with the following criteria:

1. If the wheeling could be implemented only by blending the transferred water with other water in the agency's supply system, the agency may charge the legal water user for any additional costs of treatment of the blended water attributable to the addition of the transferred water to the system.

2. If the wheeling could be implemented only by blending the transferred water with other water in the agency's supply system, and the addition of the transferred water would diminish the quality of the water in the system to such an extent that the blended water could not be treated for distribution to the agency's other members and customers using the agency's existing water treatment facilities, the agency may prohibit or place conditions on the transfer as required to protect the water quality within its system.

Subsection 903(a) also would permit the agency to impose other reasonable terms and conditions to comply with applicable water quality and environmental standards.

Subsection 903(b) defines the financial charges that the agency may impose on the use of its facilities. This subsection limits the agency to "fair reimbursement" of the costs attributable to the use of its system. "Fair reimbursement" is defined as:

1. the portion of the capital, operation, maintenance, and replacement costs paid by the agency for the portion of the unused capacity made available by the agency for the transfer of water by the legal water user;

2. the cost of supplemental power purchased or used by the local water agency to transfer the additional water for the benefit of the legal water user;

3. the additional cost of treating the water in the agency's water supply system caused by the blending of the water transferred by the legal water user with the other water in the agency's system; and

4. a reasonable fee for the administrative costs incurred by the agency in its review of the legal water user's request to use the unused capacity in the agency's water supply system.

Subsection 903(b) also requires the agency to credit to the wheeling parties the value of any benefits that might accrue to the agency from the wheeling arrangement, including decreases in power or treatment costs. It does not permit the agency to equalize the costs of wheeling and the costs charged to the members of the agency for use of the facilities, nor does it allow the agency to charge the wheeling parties for the "stranded investment" of the agency.

Subsection 903(c) was added to address concerns expressed at several of the focus groups regarding the possible legal consequences of *private* use of public facilities. This subsection would permit the agency to deny, or to place reasonable terms and conditions on, the use of its system by private persons or entities "to ensure that the private use of the agency's system does not jeopardize the agency's tax-exempt status, affect the agency's authority to issue tax-exempt bonds, or violate the requirements or limitations of federal law." The last criterion was included in response to San Francisco's concerns that the use of its Hetch Hetchy Project by private water purveyors might violate the terms of its Raker Act grant.

Section 904 provides that disputes arising under Part I would be subject to binding arbitration. These arbitrable disputes would include arguments over the existence or quantification of unused capacity, disputes over the agency's imposition of terms and conditions to protect water quality, and disagreements regarding calculation of "fair reimbursement." Disputes arising under section 903(c) would be

exempt from arbitration and would be subject to judicial review. In all arbitrations under Part I, the water supply agency would have the burden of proof.

Section 905 simply grants public water supply agencies authority to promulgate rules, bylaws, and other policies to govern the wheeling of water in accordance with the requirements of Part I.

Part J: Water Banks

Water users in a variety of areas have formed regional water banks or pooling arrangements to facilitate the transfer of water within the region. In addition, during each of the last two severe droughts—1976 to 1977 and 1987 through 1992—statewide water banks were created to assist in the transfer of water from areas of surplus to areas of severe shortage.[150] Part J recognizes the importance of these innovations and therefore would provide permanent statutory authority for the creation of a state water bank and regional water banks.

Section 1001 empowers the Governor to establish a State Water Bank on either a temporary or permanent basis. The State Water Bank would be administered by the Department of Water Resources and would have authority to take any action to facilitate voluntary transfers of water, including the acquisition of water or water rights for subsequent transfer to willing buyers or for other state purposes, "including augmentation of water supplies to wetlands, fish and wildlife, and other instream beneficial uses." To reduce the possibility of the State Water Bank dominating California's water market, the Bank would not have exclusive jurisdiction over water transfers. Thus, section 1001 declares that "[a]ny person or entity may transfer water without the involvement of the State Water Bank."

In 1993, the Department of Water Resources prepared a programmatic environmental impact report on the 1991–1992 State Water Bank.[151] Accordingly, section 1001 provides that the establishment and operation of the State Water Bank would be exempt from the environmental review requirements of CEQA. The Department would be required to review and revise the programmatic EIR at least once every five years, however, to ensure the currency and accuracy of information required to assess the environmental consequences of State Water Bank operations. Moreover, consistent with section 209 of the Model Act, section 1001 also states that short-term agreements to transfer water by or through the State Water Bank are exempt from CEQA.

Finally, section 1001 allows the Governor to delegate to the State Water Bank authority to administer expedited transfer provisions of Part E for expedited transfers of conserved water by or through the Bank. The State Water Bank successfully administered most of the water transfers that occurred during the 1991–1992 drought, and section 1001 provides permanent statutory authorization for future State Water Banks to assume regulatory responsibility for expedited transfers.

Section 1002 authorizes local water agencies, local governments, and individual water users to create regional water banks. Regional water banks would have authority to take a variety of actions to facilitate voluntary water transfers, including:

1. establishment of a list of current offers to sell and to purchase water and water rights;

2. acquisition of water for subsequent sale or distribution to members of the water bank or for sale to willing buyers outside the water bank;

3. acquisition and storage of water during periods of surplus for sale and distribution during periods of shortage;

4. acquisition and sale of water transfer options, water futures, subordination agreements, and other types of arrangements to transfer water for the benefit of the members of the water bank;

5. establishment of a local or regional program for the conjunctive management and use of surface and ground water supplies owned or controlled by members of the water bank;

6. augmentation of water supplies to wetlands, fish and wildlife, and other instream beneficial uses;

7 facilitation of transfers by management of water storage, water delivery, accounting, financing, or other matters relevant to the interests of the members of the water bank;

8. provision of assistance to potential transferors and transferees in the negotiation and implementation of transfer agreements; and

9 creation of an insurance system to pay claims for compensation brought by third parties against water transfers implemented through the bank on behalf of the members of the bank.

150. *See supra* text at notes 22, 36.

151. CAL. DEP'T OF WATER RESOURCES, PROGRAM ENVIRONMENTAL IMPACT REPORT: STATE DROUGHT WATER BANK (1993)

All actions taken by regional water banks must be consistent with the other provisions of the Model Act.

As with the State Water Bank, regional water banks would not have exclusive jurisdiction over water transfers within their jurisdictional area. Thus, section 1002 states that "[a]ny person or entity may transfer water without the involvement of a regional water bank." The establishment of regional water banks would be subject to CEQA. Consistent with section 209, however, short-term agreements to transfer water by or through regional water banks would be exempt from CEQA's environmental review requirements.

Finally, to decentralize the administration of expedited transfers, section 1002 authorizes the Board to delegate to regional water banks its authority to supervise expedited transfers of conserved water undertaken pursuant to Part E.

Part K: State Water Resources Control Board

Part K is comprised of three brief sections that address the responsibilities of the State Water Resources Control Board.

Section 1101 preserves the Board's authority to enforce the terms and conditions of permits or licenses within its existing statutory jurisdiction and to ensure that, throughout the term of all water transfers, the impoundment, storage, diversion, distribution, use, and return flow of water comply with applicable water quality standards, the reasonable use laws, and other relevant provisions of state and federal law.

Section 1102 was added at the suggestion of several environmental representatives who participated in the focus groups. It requires the Board to create and maintain a "Water Transfer Registry" of all water transfers governed by the Model Act. The Registry would include the names of the parties to the transfer, a brief description of the transfer, and an explanation of the changes in water storage, timing and point of diversion, place and purpose of use, consumption, and timing and point of return flow caused by the transfer. The purpose of the Registry is to consolidate information regarding water transfers so that government agencies and interested members of the public could obtain current and accurate data regarding water transfers. This Registry would be particularly important for transfers to instream uses governed by Part F, because it would help to inform the Board and other agencies of the quantity of water that is dedicated to instream purposes and therefore must be set aside from regulatory water quality and stream flow requirements in accordance with section 602.[152] To promote public access and use of the water transfer data, section 1102 instructs the Board to ensure that the Water Transfer Registry is available both in print form and over the Internet.

Section 1103 simply directs the Board to review its existing rules and policies and amend such rules and policies as necessary to ensure that they comply with the terms of this Act. Section 1103 also states that the Board has authority to promulgate other rules that it determines would assist in the implementation of the Model Act.

Part L. Miscellaneous

Part L concludes the Model Act with a few "housekeeping details."

Section 1201 repeals, as of the effective date of enactment of the statute, the existing water transfer laws that the Model Act would supersede. The provisions of the Water Code that would be repealed are sections 109, 380–387, 470–484, 1020–1030, 1435–1442, 1700–1707, 1725–1745.11, and 1810–1814.

Section 1202 states that the courts generally would have authority to enforce the requirements of the Model Act, but would have no power to adjudicate disputes arising under Parts D, E, and I, except as specifically provided in those Parts. This exception is included because Parts D, E, and I either limit the scope of judicial review or refer most disputes over implementation to binding arbitration.

Section 1203 provides simply that, whenever the Model Act refers to any other statute, "the reference shall apply to all amendments of the other statute."

APPENDIX B: Petitions for Temporary Actions

See Next Page.

152. *See* Thomas, *supra* note 68, at 49–51.

Appendix B

Preliminary Summary of Water Right Petitions for Temporary Actions
(Temporary Urgency Changes — 1435, Temporary Change — 1725 and Trial Transfers —1735)

No.	Date Filed	Water Code Section	Transferor	Transferee	Period Start	Period End	Source Authorized
1	5-27-82	1725	YCWA	Newhall, et al	7-1-82	8-31-82	Bullards Bar
2	5-29-84	1725	YCWA	Newhall, et al	7-1-84	8-31-84	Bullards Bar
3	7-19-84	1725	USBR	DWR - Musco Olive	8-1-84	7-31-85	CVP
4	2-21-85	1435	USBR	DFG	3-1-85	6-30-85	CVP
5	6-19-85	1725	YCWA	Newhall, et al	7-1-85	8-31-85	Bullards Bar
6	6-27-85	1725	USBR	DWR - Musco Olive	8-1-85	7-31-86	CVP
7	8-30-85	1435	USBR	DWR	9-19-85	10-15-85	CVP
8	9-20-85	1725	EBMUD	CCWD	9-25-85	12-31-85	Camanche
9	10-2-85	1435	USBR	Grasslands	11-15-85	3-1-86	CVP
10	11-12-85	1735	Barry Hill	Skylark Nursery	11-15-85	11-1-86	Unnamed St
11	1-2-86	1725	EBMUD	CCWD	1-1-86	4-30-86	Camanche
12	2-13-86	1435	USBR	DFG	2-24-86	4-7-86	CVP
13	6-30-86	1725	YCWA	Newhall, et al	7-1-86	9-30-86	Bullards Bar
14	1-12-87	1735	USBR	DRWD, et al.	3-1-87	2-29-88	CVP
15	2-27-87	1735	USBR	USFWS	9-1-87	12-31-87	CVP
16	7-21-87	1725	YCWA	DWR	7-17-87	9-30-87	Bullards Bar
17	7-27-87	1435	USBR	USFWS	9-1-87	4-30-88	CVP
18	9-14-87	1435	USBR	DFG	12-1-87	2-28-88	CVP
19	10-23-87	1725	EBMUD	CCWD	11-1-87	12-31-87	Camanche
20	11-18-87	1435	BSA	Willitis	11-20-87	5-19-88	Scout Res
21	3-9-88	1435	USBR	DWR	3-14-88	4-10-88	CVP
22	4-18-88	1735	YCWA	DWR	7-1-88	9-30-88	Bullards Bar
23	5-10-88	1435	USBR	EBMUD	7-1-88	6-30-89	CVP
24	5-17-88	1725	Payne	Heidrick Farms	6-15-88	8-30-88	Yolo Bypass
25	6-30-88	1435	USBR	DWR	7-1-88	2-28-89	CVP
26	7-7-88	1725	McAuthur et al.	Malacha Hydro	11-1-88	12-31-88	Iverson Res
27	8-18-88	1435	YCWA	DWR	8-18-88	9-15-88	Bullards Bar
28	9-30-88	1435	USBR	DWR	10-1-88	3-31-89	CVP
29	10-17-88	1435	USBR	DWR	10-7-88	3-31-89	CVP
30	12-21-88	1435	USBR	DWR	1-1-89	3-31-89	CVP
31	2-2-89	1725	YCWA	EBMUD	3-1-89	2-28-89	Bullards Bar
32	2-27-89	1725	YCWA	NAPA	4-1-89	9-30-89	Bullards Bar
33	2-27-89	1435	PG&E	El Dorado ID	3-1-89	3-10-89	Charles Lake
34	3-28-89	1725	YCWA	DWR	5-1-89	9-30-89	Bullards Bar
35	4-28-89	1435	USBR	DFG	5-10-89	8-20-89	CVP
36	5-1-89	1725	Payne	Cal. Valley Land	6-15-89	8-30-89	Yolo Bypass
37	8-3-89	1435	USBR	USFWS	9-15-89	12-31-89	CVP
38	8-8-89	1435	YCWA	DFG	8-23-89	11-30-89	Bullards Bar
39	9-13-89	1435	KCWA	Westlands	9-21-89	12-31-89	SWP
40	9-27-89	1735	AEWSD	MWD	1995	2035	CVP
41	11-8-89	1725	DRWD	Muco Farms	1990	1990	Fresno Co
42	2-28-90	1725	Payne	Heidrick Farms	6-15-90	8-30-90	Liberty Cut
43	3-12-90	1725	YCWA	NAPA	4-1-90	10-15-90	Bullards Bar
44	4-4-90	1725	YCWA	DWR	5-1-89	12-31-90	Bullards Bar
45	6-22-90	1725	DWR	Salyer American	ASAP	12-31-90	San Luis Res
46	8-15-90	1725	OWID	Westlands	9-19-90	3-31-91	S F Feather
47	8-16-90	1435	YCWA	Tudor et al	8-28-90	10-15-90	Yuba River
48	10-3-90	1725	PCWA	WWD et al	10-23-90	3-31-91	MF Amer & Rub
49	2-6-91	1725	YCWA	NAPA	4-1-91	10-15-91	Bullards Bar
50	3-22-91	1725	PCWA	SF & SCVWD	7-17-91	7-17-92	MF Amer & Rub
51	3-28-91	1725	USBR	USBR	9-1-91	10-1-91	CVP
52	5-9-91	1725	Raub	Woods	9-1-91	11-1-91	Wadsworth Can
53	6-28-91	1725	YCWA	DWR Water Bank	ASAP	10-1-91	Bullards Bar
54	8-9-91	1725	OWID	DWR Water Bank	ASAP	10-26-91	S F Feather
55	10-7-91	1725	MID	SLWD	10-15-91	12-31-91	Merced River
56	4-16-92	1725	Harris	WWD	ASAP	12-31-92	San Luis Res
57	6-24-92	1725	BVID	DFG	8-6-92	9-30-92	Dry Creek
58	8-6-92	1725	PCWA	DWR	9-2-92	10-31-92	MF Amer & Rub
59	8-6-92	1725	OWID	DWR	10-14-92	11-30-92	S F Feather
60	8-28-92	1725	Patrick	RRI	ASAP	8-28-93	Rock Creek
61	9-17-92	1725	MID	DFG	10-24-92	12-1-92	Merced River
62	4-20-93	1435	NMWD	Giacomini	5-1-93	10-27-93	Lagunitas Cre
63	5-21-93	1725	DWR	WWD	ASAP	12-31-93	San Luis Res
64	7-12-93	1725	MID	WWD	ASAP	7-14-93	Merced River
65	7-16-93	1725	DWR	WWD	ASAP	12-31-93	San Luis Res
66	4-1-94	1435	NMWD	Giacomini	5-1-94	10-27-94	Lagunitas Cre
67	5-11-94	1725	Brisbois	Gordon	ASAP	11-15-94	Ledgewood Cr
68	5-23-94	1725	OWID	DWR Water Bank	9-1-94	11-30-94	S F Feather
69	5-25-94	1725	MID	WWD	8-1-94	9-1-94	Merced River
70	5-31-94	1725	YCWA	DWR Water Bank	ASAP	10-1-94	Bullards Bar
71	6-27-94	1725	BVID	County of Sac.	10-1-94	9-30-95	Dry Creek
72	6-27-94	1725	BVID	DWR Water Bank	ASAP	9-30-94	Dry Creek
73	7-21-94	1725	PCWA	DWR Water Bank	9-2-92	10-31-94	MR Amer & Rub
74	4-24-95	1725	DWR	WWD	ASAP	3-31-96	San Luis Res
75	5-24-95	1725	BVID	County of Sac.	10-1-94	9-30-96	Dry Creek
76	6-30-95	1725	DWR	WWD	ASAP	3-31-96	San Luis Res

Source: California Department of Water Resources

No.	Acre-feet Approved	Use Authorized	Comments
1	5,000	Irr.	
2	2,266	Irr.	
3	100	M & I	USBR — Applications 9363 et al
4	195,000	F & W	WR 85-2, Striped Bass Test
5	750	Irr.	
6	100	M & I	USBR -- Application 9363 et al.
7	12,800	M & I	For Santa Clara County
8	5,000	M & I	Reduce sodium and chloride levels
9	28,000	F & W	28,000 af for West Grasslands and reduced the petition to 22,000 af for Grasslands
10	18	Irr., Stock. & Rec.	
11	5,000	M & I	Reduce sodium and chloride levels
12	100,000	F & W	WR 86-4, Striped Bass Test
13	0	Irr.	Denied, DFG protested about no fishscreens at pumps
14	0	Irr.	80,000 af petition withdrawn, EIR required
15	0	Multipurpose	10,000 af petition withdrawn, EIR required
16	83,100	Irr., M & I	Carry over in Oroville
17	6,200	Multipurpose	WR 87-10, for waterfowl at Kern National Wildlife Refuge
18	8,500	Multipurpose	WR 87-12, for Salmon outmigration
19	44	M & I	Water quality study
20	75	Rec.	WR 87-13, drought relief
21	100,000	Multipurpose	WR 88-2
22	110,000	Water Quality	WR 88-12, carry over in Oroville -- Delta Outflow
23	0	M & I	WR 88-15, denied for environmental and public health reasons
24	1,450	Irr.	Supply water during a split
25	85,500	Multipurpose	WR 88-18, for Waterfowl management, salmon spawning and Delta water quality
26	500	Irr., Stock, & Rec.	Test of Muck Valley Powerhouse
27	12,000	Water Quality	WR-88-17, carry over in Oroville
28	126,500	Multipurpose	WR 88-23, for Waterfowl management, salmon spawning
29	45,000	Multipurpose	WR 88-24, for Waterfowl management, salmon spawning
30	10,000	Multipurpose	WR 89-1, for Rock Slough -- D1485
31	66,000	Irr., M & I	Contingency Supply for EBMUD, approved but not used (See WR 89-20)
32	7,000	Irr., M & I	Supplemental supply for Napa et al.
33	600	M & I	WR 89-5 (WR 89-23 Reconsideration), Temporary redistribution of storage
34	200,000	Irr., M & I	WR 89-17, Santa Clara (90,000 less CW) and Tulare Basin (110,000 less CW)
35	30,000	Multipurpose	WR 89-10, salmon outmigration studies
36	0	Irr.	Petition withdrawn, no surplus capacity at SWP Banks
37	8,200	F & W	WR 89-21, for waterfowl at Kern National Wildlife Refuge
38	39,000	Irr.	WR 89-20, for waterfowl in the Grasslands WD area (relates to 2/2/89 EBMUD)
39	55,000	Irr.	WR 89-24, will repay KCWA with water
40	135,000	M & I	Long-term transfer, groundwater banking exchange (needs EIR before a hearing)
41	1,700	Irr.	To save two orchards from drying up
42	1,450	Irr.	water for rice crop
43	7,000	Irr., M & I	Supplemental supply for Napa et al.
44	146,000	Irr., M & I	WR 90-8, up to 200,000 af with further approval
45	5,000	Irr., etc.	Request to move 5,000 af from Tulare area to Westlands Area I
46	15,000	Irr.	Little Grass Valley (10,000 af) and Sly Creek (5000 af)
47	3,000	Irr.	WR 90-14, Water to replace USBR's 50% cutback for Tudor MWD and Feather WD
48	55,500	Irr., M & I	Westlands and SLWD (40,500 af) and SLWD (15,000 af)
49	7,500	Irr., M & I	Supplemental supply for Napa et al.
50	40,000	Irr., M & I	San Francisco, Santa Clara, and the city of Carmichael
51	35,000	Irr., M & I	Use SWP Banks to make-up for pumping foregone in May and June (1991 Umbrella)
52	250	Irrigation	Use of water on 60 acres of the adjacent property
53	157,200	Irr., M & I	DFG wildlife preserves, the San Francisco, and SWP service areas
54	10,000	Irr., M & I	Little Grass Valley (5,000 af) and Sly Creek (5,000 af)
55	0	Irrigation	10-17,000 af requested -- Petition was withdrawn -- Delta timing
56	12,000	Irrigation	Harris Farms -- Dudley Ridge to Westlands WD area
57	5,000	F & W	Exchange with DWR to provide water to Gray Lodge Wildlife Refuge
58	10,000	M & I, Irr.	1992 Water Bank
59	10,000	M & I, Irr.	1992 Water Bank
60	0	F & W	4,150 af requested for instream uses - Petition was withdrawn
61	15,000	F & W	Instream uses and at Los Banos, San Luis, and Volta Wildlife Refuge
62	800	Irrigation	Project deferred installation of a Salinity Dam
63	36,000	Irrigation	Supplemental water source
64	60,000	Irrigation	Supplemental water source
65	92,500	Irrigation	Friant water exchanged -- 10,000 af for Shannon Farms
66	0	Irrigation	Project deferred installation of a Salinity Dam
67	30	Irrigation	
68	10,000	M & I, Irr.	1994 Water Bank
69	30,000	Irrigation	Supplemental water source
70	30,500	Irr., M & I	DFG wildlife preserves, the San Francisco, and SWP service areas
71	2,000	M & I	Groundwater recharge
72	3,000	M & I	1994 Water Bank
73	20,000	M & I, Irr.	1994 Water Bank
74	32,525	Irrigation	Woolf Ent., Vista Verte Farms, and Shannon lands
75	2,000	M & I	Groundwater recharge
76	15,000	Irrigation	Within the district